MARCH 1981

Pension World

The Magazine for Plan Sponsors and Investment Managers/ A Publication of Communication Channels Inc

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Freeport Minerals: Mining Asset Security and Flexibility

Pension Fund Investment in Tangibles

Screening Investment Managers

A Winning Vehicle: Convertible Mortgages

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March 1981 Volume 17 Number 3

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Cover: Freeport Minerals' success is dependent, to an extent, on risk-taking. Safety, however, is the key to its pension program. Story begins on page 14.

VBPA

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A practical guide for screening investment managers

by Brian Rom

Consider the plight of the plan sponsor about to embark on a search for new investment managers. With several hundred independent counselors, banks, trust and insurance companies currently offering investment management services, where does the sponsor begin? He may have compiled a file of those firms that have been soliciting the plan's business, possibly augmented by a handful of recommendations from colleagues at other companies on advisers "who've done a good job for us." At best, the result of this type of erratic, *ad hoc* approach will be an unsystematic list of, most likely, unrepresentative managers. At worst, the pension executive, frustrated by his inability to reduce even this first stage of the problem to manageable proportions, may be tempted to "simplify" the project by giving the account to a local bank or the first investment manager with a credible marketing presentation.

Brian Rom is president of the pension investment consulting firm, Brian Rom Co., in New York.

The point is that, if the universe with which the sponsor begins the search does not represent the widest possible range of available investment expertise, the already difficult task of identifying the most suitable advisers will be severely jeopardized. Consequently, it is imperative for the project to begin with an effort to reduce the very large universe of potential advisers to a size that can be properly investigated and evaluated.

The manager-screening methods described below follow from the recognition of this need. The second part of this article reports the results of a recently-conducted screening project, covering some 435 investment advisers who represent 656 investment portfolios (Table I). Owing to the size of this universe we found it necessary to use criteria which are both measurable and relatively accessible; two such criteria are *size* of the (tax-exempt) asset pool under management and historical *investment performance.*

Size of asset pool

The desired size of the firms will vary in accordance with each plan's requirements. For our study, the minimum assets under management were $50 million. This follows from our belief that a single sponsor's participation should not represent more than ten percent of the total sum managed by any firm. Consequently, this minimum allows for portfolios of at least five million dollars to be placed with any of the managers who are considered. On the other hand, no maximum-size constraints were imposed, thereby allowing for the largest possible universe of managers to be considered.

Historical investment performance

In spite of limitations in the use of historical performance numbers, the hard reality of the investment world is that this performance remains the most used — and most useful — single available indicator of investment management skills.

Among the sharpest of the criticisms leveled against history as meaningful information in evaluating investment managers for future responsibilities are: 1) past performance is not necessarily an indication of future performance, and 2) owing to differences in styles and philosophies among managers, direct comparisons of performance are not valid. Even though both of these criticisms contain important elements of

Table I

Results of Size Screen
Composition of "Beginning Universe"

Type of Institution	No. of Institutions Total Surveyed	No. of Institutions Passing Size Screen[1]	Number of Portfolios Total Surveyed	Passing Size Screen[1] Equity	Passing Size Screen[1] Fixed Income	Passing Size Screen[1] Totals
Banks & Trust Companies	327	161	492	124	81	205
Counselors	82	82	126	79	47	126
Insurance Companies	26	17	38	10	22	32
Totals	435	260 (60%)	656	213	150	363 (55%)

[1] At least $50 million in tax-exempt assets under management; these managers comprise the "Beginning Universe."

If the beginning universe does not represent the widest possible range of available investment expertise, the task of identifying the most suitable advisers will be jeopardized.

truth, we can live with these imperfections so long as the numbers are used with common sense and discernment; this means not forcing from them a precision which does not exist. For example, no attempt should be made to rank the managers according to these "raw" investment results; they should be thought of as a "pass/fail" screen rather than as specific "grades" representing each manager's standing in the class. Such caution will significantly reduce the potential for error and distortion.

Consider now the first of the objections listed above — that what a manager did yesterday is of little help in telling us what he is likely to do tomorrow. Our position is that if "yesterday" is long enough and if enough of these "yesterdays" are considered, it is possible to identify patterns of consistency. Therefore, it is not unreasonable to favor those managers with consistently superior past performance over those who are consistent underperformers or inconsistent outperformers.

With this in mind, we selected the following five time periods:

- One year: 1979
- Three Years: 1977 to 1979, inclusive
- Five years: 1975 to 1979, inclusive
- Ten years: 1970 to 1979, inclusive
- Four-year market cycle: 1973 to 1976, inclusive

For a manger to pass the performance screen and thereby gain admittance to what we have termed the "Qualifying Universe," his performance must equal or exceed the median rate of return of a representative manager universe for at least three of these five time periods. This screen will naturally be applied separately to equity and fixed-income portfolios.

Although nothing prevents the use of absolute (i.e. market) indices, such as the S&P and the Salomon Bros., respectively, rela-

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If a senior member of a management firm has departed during the period under analysis, it will be necessary to determine the impact of this change on historical and prospective investment results.

Table II

Results of Performance Screen
Portfolio-Composition of "Qualifying Universe"

Type of Institution	Portfolios Passing Equity Performance Screen No.	Equity Performance Screen Percent of Beginning Universe[2]	Fixed-Income Performance Screen No.	Fixed-Income Performance Screen Percent of Beginning Universe[2]	Totals No.	Totals Percent of Beginning Universe[2]	Totals Percent of Qualifying Universe[2]
Banks & Trust Companies	35	28%	27	33%	62	30%	45%
Counselors	49	62	15	32	64	51	47
Insurance Companies	7	70	4	18	11	34	8
Totals	91	43%	46	31%	137	28%	100%

[1]See Table I.
[2]The "Qualifying Universe" consists of those managers passing *both* the size and performance screens.

tive (i.e. peer-group) standards seem to make more sense, since we are trying to identify those managers who have consistently done better than the majority of their competitors.

Notice that the "three-out-of-five" rule effectively excludes from consideration all those management organizations with a track record shorter than five years. While this is sure to eliminate a number of otherwise well-qualified firms, shorter time periods are not sufficient to allow the manager to demonstrate the required superiority and consistency. This is not to say that those managers who do not qualify for this screen should not be given consideration — there will almost always be a number of additional advisers the sponsor will want to consider, irrespective of performance.

If one establishes that a senior member of a management firm has departed during the period under analysis, it will be necessary to determine the impact of this change on historical and prospective investment results. This will usually be done during the interviewing of candidate managers where the objective is to determine whether the history remains representative of the firm's abilities in spite of the departure of key individual(s).

On the other hand, if these departing individuals set up their own, new advisory firm, their track records at the previous employer may be used to screen them in the fashion described above. The burden of proof, however, lies on these persons to demonstrate that the old firm's numbers are directly attributable to themselves and also that they will continue to manage money as before.

The second criticism — lack of comparability of performance data — is partially answered by using, whenever possible, published and audited performance information. For much of the needed data, there are several reliable sources. If

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A spreading of performance history over multiple periods serves to even out the effects of style differences.

Table III

Results of Performance Screen
Institution-Composition of "Qualifying Universe"

Type of Institution	Number of Institutions Passing: Equity Performance Screen Only	Fixed-Income Performance Screen Only	Both Equity and Fixed Income Performance Screens	Total Inst. Passing	Percent of Beginning Universe[2]	Percent of Qualifying Universe[3]
Banks & Trust Companies	25	17	10	52	32%	46%
Counselors	38	4	11	53	65	46
Insurance Companies	5	2	2	9	53	8
Totals	68	23	23	114	44%	100%

[2]See Table I.
[3]The "Qualifying Universe" consists of those managers passing *both* the size and performance screens.

this is not possible, and the adviser himself has supplied the information, extra care should be exercised when interviewing the manager and special attention should be given to the derivation of the performance numbers.

The second part of this objection — lack of comparability due to different styles and objectives — is substantially reduced by considering the results over the extended time periods, as detailed above. This "spreading" of performance history over multiple periods serves to even out the effects of style differences.

We turn now to a description of the Qualifying Universe developed in accordance with the size and performance criteria described above. Table I shows the composition of the total universe of managers initially surveyed, as well as that of the Beginning Universe which consists of all those managers surviving the size screen. This table shows that 260 (60 percent) of the 435 institutions and 363 (55 percent) of the 656 portfolios canvassed survived this screen.

Tables II to IV show the details of the Qualifying Universe's composition in terms of type or size against the number of managers and portfolios.

All told, 114, or 44 percent, of the Beginning Universe passed the performance screen (Table II), with the 65 percent success rate for the counselors more than twice the corresponding 32 percent rate achieved by the banks and trust companies. Owing to the larger number of banks than counselors in the Beginning Universe, these different rates translate into identical representations (46 percent) in the Qualifying Universe. Observe that the counselors dominate the equity representation, while the banks lead in the fixed-income department.

Table III shows the Qualifying Universe in terms of actual portfolios and is, therefore, a better rep-

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THE NATION'S HEADQUARTERS FOR PENSION AND INSURANCE PERSONNEL

Analysis of the number of successful equity managers suggests there may be a positive correlation between smaller size and better performance.

Table IV
Results of Performance Screen
Composition of "Qualifying Universe" by Size of Institution

Size of Institution (Total tax-exempt assets under mgmt.)	How Qualified: Passed Equity Only	Passed Fixed Income Only	Passed Equity & Fixed	Number Qualifying	Percent of Qualifying Universe*
Medium ($50 mil. to $1 bil.)	45	8	12	65	61%
Large ($1 bil. to $2.5 bil.)	11	8	6	23	20
Very Large ($2.5 bil. & up)	8	9	5	22	19
Totals	64	23	23	114	100%

*The "Qualifying Universe" consists of those managers passing *both* the size and performance screens.

resentation of the range of investment expertise that has qualified. The table shows that 137 out of 363, or 38 percent of the portfolios, survived the performance screen; of these, the number of equity portfolios (91) led the 46 fixed-income qualifiers by an almost two-to-one margin. Although 70 percent of the insurance companies' equity portfolios passed, the small number of these portfolios reduces the significance of this statistic. Of particular interest here is the 62 percent to 28 percent success rate of counselor-equity to bank-equity portfolios. This dominance is not evident in the fixed-income case where the banks and the counselors have almost the same representation — 33 percent and 32 percent, respectively.

Overall, just over half the counselors' portfolios passed the performance screen, compared with less than a third of the banks and trust companies, and 34 percent for the insurance companies. Following the pattern seen in Table II, these success rates translate into about an equal number of qualifying portfolios for the counselors and the banks.

Table IV shows the composition of the Qualifying Universe in terms of institution size: nearly two-thirds of this group consists of medium-sized managers, with the balance split about equally between those that are large or very large.

Analysis of the number of successful equity and fixed-income managers suggests that there may be a positive correlation between smaller size and better performance for the equity managers, while this pattern is far less evident in the fixed-income case. Taken together, these data suggest to us that small, independent counselors have more consistent overall performance records than larger institutions.

Whatever broad conclusions one might draw from this study, it is apparent that the Qualifying Universe of 114 managers it produces are a representative cross-section of some of the best expertise available in the investment management community. Plan sponsors, after analyzing their own specific needs, can now select from this number those institutions to which they wish to devote more time for additional quantitative research, as well as the essential qualitative investigations which will precede the final manager-selection decision.

This study has also shown that, in spite of certain limitations, practical utilization of available real-world information can contribute useful knowledge which will enhance the efficiency and effectiveness of the investment manager search and selection process. □

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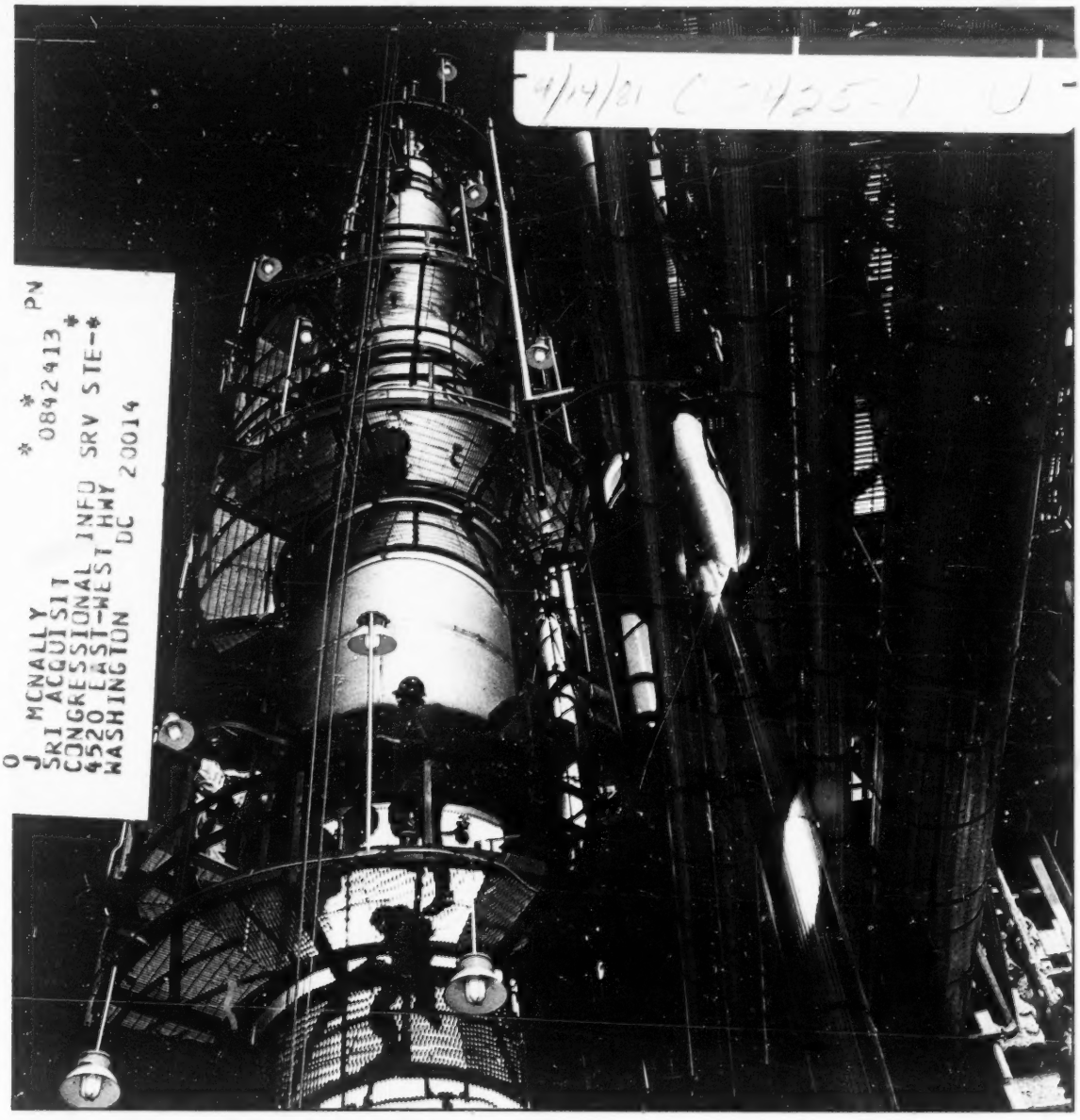
GAF's Pension Fund Continues to Build



Choosing the Right Real Estate Investment Manager

Can Plan Sponsors Afford Post-Retirement Income Adjustments?

PW Basics: A Glossary of Investment Terms

April 1981 Volume 17 Number 4

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GAF's Pension investment team discusses how it hammered out a strategy that has nearly doubled the fund in the past two years.

Choosing a real estate investment manager by James A. Kujaca 26
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Marketing employee benefits fosters good relations by Louis C. Kleber 33
This no-nonsense guide to communicating benefits maintains that few, if any, excuses exist anymore for *not* marketing a good package.

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Using a three percent cap and partially indexing benefits to short-term interest rates can provide a substantial defense against erosion of retirees' benefits.

What Every Fiduciary Should Know: Playing Russian roulette with lump sum options by Leo Brown and Jeffrey D. Mamorsky 58
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Pension World Basics: Glossary of investment terms Part 1 by Eugene Burroughs 64
An investment expert has compiled this basic, usable list of terms for investment newcomers — and veterans. Part I of two parts.

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Cover: In less time than it budgets for a major construction project, GAF has nearly doubled its pension fund. How the fund operates begins on page 21.

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The International Pension World

The U.K. Government Actuary's Report

by Vincent J. Simone

The total number of individuals who were members of private pension plans in the United Kingdom in 1979 was approximately 11 million. Of these, some 10.3 million were members of plans that contracted-out of the additional component provisions of the state pension scheme. In addition, nearly four million individuals are receiving pension benefits.

This data was supplied by some 3,000 employers and compiled by the U.K. Government Actuary's Department. The Government Actuary received full details from the public sector; thus, the survey was one of the most comprehensive of the series of six surveys conducted by the department over the past 25 years.

Changes since 1975

Since the last survey in 1975, there has been a remarkable increase in the number of women who are members of U.K. pension plans. In 1975, the number was approximately 2.8 million; it is now 3.3 million. The 1978 legislation provided for equal membership in occupational pension plans for men and women. The effect of this requirement on the number of women in plans has been all the greater because in 1978 many employers extended their pension arrangements beyond the traditional, largely male, categories (such as full-time permanent staff employees) in order to take the maximum advantage from the new contracting-out arrangements.

The number of male members of pension plans fell slightly — from 8.6 million in 1975 to 8.5 million in 1979 — partly because some plans, which did not meet the contracting-out requirements, were discontinued. A decrease in the number of men in private sector plans is partly attributable to the transfer of some firms to the public sector, including approximately 100,000 members of plans in the aerospace and shipbuilding industries when they were nationalized.

Growth of schemes since 1936

Table I shows the growth of private pension plans in the U.K. The private sector figures for 1936 are from the Ministry of Labour Gazette of May, 1938. That survey did not cover employees of government departments, local authorities, and the armed forces. The figure of one million in the table for the public sector is an estimate and would seem to suggest that in 1936 only about two-and-a-half million employees were in private pension plans. After the war, the

Table 1 Employees in Pension Plans (1936-79)
(millions)

	Private Sector		Public Sector		
Year	Male	Female	Male	Female	All
1936	1.3	0.3	0.8	0.2	2.6
1954	2.5	0.6	2.4	0.7	6.2
1956	3.5	0.8	2.9	0.8	8.0
1963	6.4	0.8	3.0	0.9	11.1
1967	6.8	1.3	3.1	1.0	12.2
1971	6.5	1.3	3.2	1.1	11.1
1975	4.9	1.1	3.7	1.7	11.4
1979	4.7	1.5	3.8	1.8	11.8

Vincent J. Simone is managing director of Godwins (Overseas) Ltd., of Farnborough, England, and editor of the International Benefits Information Service. He has been involved in international benefits for 15 years, both as a consultant and as an officer with a U.S. multinational firm.

Pension coverage is not nearly as widespread among establishments with under 100 employees as with those over that number.

Table II Pensions in Payment (1936-79) (millions)

Year	Private Sector	Public Sector	All
1936	0.1	0.1	0.2
1953	0.2	0.7	0.9
1956	0.3	0.8	1.1
1963	0.7	1.1	1.8
1967	1.0	1.3	2.3
1971	1.3	1.6	2.9
1975	1.3	2.1	3.4
1979	1.4	2.4	3.8

number increased rapidly to more than six million when the Phillips Committee examined the situation in 1954, and it increased to 12 million by 1967. Since then, there has been a small reduction in the proportion of employees covered for pension arrangements in the private sector, but in the public sector the proportion has increased as more members of armed forces and more manual workers and other groups have been covered. (In this article, members of the armed forces are regarded as employees.)

Pensioners

The number of pensions being paid from private plans to former employees has risen over the past 40 years from about 250,000 to over three million, and there are also now about 750,000 widows and dependents receiving pensions. This growth is illustrated in Table II. The number is still slowly growing as plans mature further.

Sector and size of employer

Nearly 40 percent of employees employed in the private sector are members of plans — 50 percent of men and 25 percent of women. In the public sector, 75 percent are covered — 90 percent of men and 55 percent of women. Table III shows how these percentages, taking men and women together, vary for different sizes of firms according to the number of employees, and also how the percentage varies between the public corporations, which mainly consist of the nationalized industries, and central and local government. (A high proportion of part-time employees in education and health service diminishes the percentages for local and national government.)

It is clear from the table that pension coverage is not nearly as widespread among establishments with under 100 employees as with those over that number. In estimating the size of establishments for the purpose of the survey, a group of associated employers or establishments sharing a common pension plan has been classed as a single establishment. On this basis, there are nearly 100,000 employers who have pension plans, but only about 50,000 of them have plans which cover ten or more employees.

Benefits promised to employees

Table IV gives further details of the nature of the pension benefits promised and covers the 11 million members in the U.K. who are entitled to benefits with respect to their current service. The remaining 200,000 are enrolled in plans with their present employers which

Table III Coverage by Sector and Size of Establishment (thousands)

Employees at Establishment (or group of establishments)	Aggregate No. of Employees	No. Whose Employer Has Plan	Members of Plan	Percent Employees Covered
Private Sector				
1-9	1,550	150	90	6%
10-99	4,250	1,800	650	15
100-999	2,720	2,400	1,100	40
1,000-9,999	3,330	3,300	1,900	57
10,000 and over	3,850	3,850	2,460	64
All	15,700	11,500	6,200	39
Public Sector				
Public Corporations	2,060	2,060	1,900	92%
Central Government				
HM Forces	320	320	310	97
Civilian	2,000	2,000	1,540	77
Local Authorities	3,070	3,070	1,850	60
All	7,450	7,450	5,600	75
Grand total	23,150	18,950	11,800	51

Table IV Scale of Pension Benefits (millions)

Sector and Size of Plan	Final-Salary Pension Contracted Out	Not Contracted Out	Other Basis	All
Private Sector				
1-9	0.03	0.12	0.07	0.22
10-99	0.47	0.17	0.11	0.75
100-999	0.89	0.13	0.12	1.14
1,000-9,999	1.40	0.33	0.11	1.84
10,000 and over	1.93	0.18	0.02	2.13
All	4.72	0.93	0.43	6.08
Public Sector				
All	5.50	0.02	—	5.52
Grand Total	10.22	0.95	0.43	11.60

Table V Pensioners According to Pensions Increase 1979 (millions)

Increase	Private Sector	Public Sector	All
No increase, or small, or irregular	0.4	—	0.4
Regular increases of 3% to 5%			
3% or 4%	0.1	—	0.1
5%	0.1	—	0.1
Regular increase of over 5%			
But at less than 55% of inflation rate	0.4	—	0.4
Between 55% and 70% of inflation rate	0.3	—	0.3
Over 70% of inflation rate	0.1	2.4	2.5
All	1.4	2.4	3.8

have been "frozen," so that they no longer are earning benefits with respect to their current service.

The first two columns in Table IV give the numbers of members with pensions related to their earnings at or near retirement — in total, over 11 million. The corresponding total for 1975 was just over ten million. In addition, somewhat more than 1.2 million people were in plans giving benefits not related to salaries at or shortly before retirement. Owing to continuing inflation and the changes made by the Social Security Pensions Act 1975, which required final-salary, or comparable arrangements, for a plan to be contracted out of the additional component of the state pension provisions, arrangements not based on final salaries have become much less common — although 20 years ago they applied to three-quarters of the scheme members in the private sector.

Inflation-proofing after retirement

In the future, the vast majority of plan members can expect to obtain a pension at retirement that takes inflation into account as it is reflected in their salaries before retirement. On the evidence of current practice, however, few in the private sector can expect full protection against inflation after retirement. About three-quarters of current workers can expect some increases, and the state plan will provide additional protection with respect to that part of the plan pension which corresponds to the additional component of the state pension for those who have been contracted out. In the public sector, pensions are generally increased each year in line with the cost of living under the Pension Increase Acts, or, for most of the public corporations, at similar rates. In the private sector, it has tended to be the larger employers who have been granting increases closest to increases in the cost of living. The main change in recent years in private-sector practice has been that many firms which previously gave *ad hoc* increases have changed to a regular annual pattern.

Table V shows the numbers of pensioners who received different annual rates of increase in 1979. In their first year, pensioners will usually not have received the full rate of increase shown. Rates of increase of over five percent are compared with the increase in the retail price index ("the inflation rate") in the 12 months preceding the date of the pension's increase. This itself increased from nine percent in the year ending January, 1979, to 17 percent in the year ending December, 1979.

A full report covering a wider range of subjects than discussed in this article will be published later this year under the title "Occupational Pension Schemes 1979 — Sixth Survey by the Government Actuary." □

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Pension World

The Magazine for Plan Sponsors and Investment Managers/A Publication of Communication Channels, Inc.

Stauffer Chemical's Aggressive Strategy

A New Look at MPT

Two Types of Real Estate Equity

Joint Action to Control Health Care Costs

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Pension World

May 1981
Volume 17 Number 5

The Magazine for Plan Sponsors and Investment Managers/A Publication of Communication Channels, Inc.

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Cover: **At Stauffer Chemical's Eastern Research Center, sophisticated instrumentation is used to develop specialty chemicals. "Specialty" is also the watchword for the company's pension investing. See page 15.**

ABPA

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Toward a National Retirement Income Policy: Priorities for the '80's?

A commentary on research sufficiency of the final report of the President's Commission on Pension Policy.

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The 1980's will mark a period of tremendous challenge for the United States of America. Our nation's economy must be allowed to regain its ability to rebound. For the first time in 30 years, we are faced with the necessity of reducing the scope of government. There is little question that the adjustments will be difficult.

The economic "strength" of our nation is determined by a number of factors. The state of our economy can now be described in terms of a number of these factors, including low economic growth, high inflation, high unemployment, and a deficit-ridden budget.

The respective roles of public and private expenditures are also critical to economic "strength." Our public budgets have become more and more uncontrollable. Public assistance now accounts for about 50 percent of all Federal spending. And, due to dramatic growth of the retired population and the indexing of benefits, spending for Social Security and associated retirement income programs will continue to grow. The renewed focus on defense and international relations is moving us in the direction of reversing many years of spending cutbacks in those areas in favor of dramatic increases in spending. This places even greater budget pressure on "social" programs.

Our nation is attempting to organize itself to rebuild its economy, to increase defense spending, and to minimize spending cuts, particularly in transfer programs such as Social Security. Retirement income policy must be considered in the context of these national realities.

The retired population has traditionally been a protected constituency. The nation has fought to maintain programs for the aged. A major question today is whether the aged will continue to claim an increasing share of expenditures and gross national product, or whether the aged will begin to be faced with program reductions.

Historically, the Federal government has maintained a substantial ongoing interest in the retirement income area. Social Security and Old Age Assistance were established in 1937. The Employee Retirement Income Security Act of 1974 brought Federal regulation to all private pension and welfare benefit programs. 1977 saw passage of major amendments to the Social Security Act. These amendments were to have solved the financial problems of the system well into the next century. Regrettably, they helped to solve the problem for less than a four-year period. This was one factor which caused President Carter to form the President's Commission on Pension Policy in mid-1978.

When creating the Commission, President Carter stressed the tremendous size and scope of retirement programs, the current level of public plan unfunded liabilities, and the need for reforms aimed at the control of costs. In outlining five major areas for the Commission's work, he focused on four areas of research and analysis, and one on reform and organizational changes.

During the Commission's life, its chairman repeatedly stressed the need for assessing social and economic implications of potential Commission recommendations. Affordability was frequently cited as a primary concern. The Commission directed national attention to retirement income policy issues: a positive contribution in and of itself. Comprehensive research and analysis, however, were lacking in many sections of the final report.

by DALLAS L. SALISBURY
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Washington, D.C.

Commission on Pension Policy

The Commission (PCPP) issued its final report on February 26, 1981. The transmittal letter from Chairman McColough to the President and Congress capsulized conclusions of the Commission:

> A crisis exists in our retirement income programs. The nation's retirement programs are dangerously dependent on pay-as-you-go systems such as Social Security. Large tax-supported programs have created an imbalance in the overall system, which has serious implications for the future. The lack of private pension plan coverage for many retirees and inadequate savings for most older Americans place an enormous burden on programs.

Evaluation of the report can take place at two levels. The first, which

may be the most frequent, is a reaction to recommendations based upon what one believes the world should look like. The second, which is attempted here, is an assessment of the substantive sufficiency of the report against a number of criteria.

1. Have major research questions regarding benefits, costs and consequences been addressed?

2. Does the report provide sufficient information to allow an understanding of why a particular conclusion was reached?

3. Does the report provide sufficient information to allow one to reach an independent conclusion?

Dimensions of the problem

The Commission reached the following conclusions with regard to the dimensions of the retirement income problem:

- The most pressing problem facing Social Security is its ability to meet future commitments.
- The most serious problem facing the retirement system today is the lack of pension coverage among private sector workers.
- The biggest issue facing public employee pension plans is the cost associated with early retirement ages.
- Employee pension plans can result in seriously inadequate retirement benefits for spouses of deceased or divorced workers.
- A number of problems are caused by the lack of coordination between disability and retirement programs.

The first conclusion is documented in the PCPP report, as well as in final reports of the Universal Social Security Coverage Group (1980), the Advisory Council on Social Security (1980), and the National Commission on Social Security (1981). This comprehensive set of studies allows one to judge the "criteria" as having been met.

The second conclusion cannot be evaluated favorably against the criteria. The report identifies two groups that are susceptible to noncoverage by employee pension programs/employer-sponsored plans: 1) workers who work for employers who do not have pension plans and 2) workers who leave employment before gaining entitlement to pension benefits.

Two factors are not included which would be needed to make the presentation complete and an evaluation against the criteria possible: 1) a dynamic analysis rather than the static numbers provided and 2) distinction between career workers and those with little lifetime tie to work — even though the latter are counted in the work force.

Table I **Employer Plan Coverage**

Year	Plan Creation	Per Year
1969-1974	249,789	41,632
1975-1977	47,499	15,033
1978-1980	152,517	50,839

Source: Internal Revenue Service

The Commission based its conclusion that the lack of pension coverage was the most serious problem upon analysis of the total work force (age 14-64) and without regard to employment stability. As a major study now being completed by EBRI shows, the coverage situation is very different from what PCPP indicated.

Had the Commission presentation incorporated these factors and had it focused on the "mainstream," full-time workers (age 25, one year of service of at least 1,000 hours), its 45 percent participation figure would move to nearly 70 percent participation.

Dynamic analysis based upon recent data indicates that employer plan coverage is growing and can be expected to do so in the future, as Table I indicates.

During 1980, a net of 14,552 new defined benefit plans were formed; 41,511 new defined contribution plans were formed. The average number of participants was 95 and 40, respectively.

Pension plan coverage has substantial room for growth and may be viewed as a problem. Judged against the criteria, however, the basis for the Commission's conclusion is not clear.

The Commission's treatment of public employee pension systems is limited to retirement ages. Its conclusion, that the biggest issue facing plans is the cost associated with early retirement ages, may be correct. But, the presentation is not sufficient to satisfy any of the criteria.

The Commission's treatment surrounding its fourth and fifth conclusions is equally sparse. Assessment against the criteria is not possible.

Remaining sections of "Dimensions of the Retirement Income Problem" provide only limited information which would allow assessment of agreement or disagreement. The list of questions unanswered is long; the list of comparisons that would be desirable is equally long.

The recommendations

Having identified what the Commission believed were principal problems facing our retirement programs, it moved to recommendations. The Commission stated the following principal recommendation as underlying the entire report:

- The Commission believes that the replacement of preretirement disposable income from all sources is a desirable retirement income goal.

The report provided no information on the potential cost of accomplishing this particular goal. The criteria were not met, whatever the merits. A staff working paper which was completed in May, 1979, did provide some estimates of cost. According to that paper, achieving this goal with a 75 percent spouse benefit and age 65 retirement would cost:

Years of Service	Cost as Percent of Payroll
20	45
25	35
30	29
35	24
40	21

There is a tremendous amount of research that would need to be presented to meet the criteria for evaluation. What would be the social and economic benefits, costs and consequences? What benefits might employees lose in order to gain extra retirement income? What segments of the population would benefit? How would this goal compare to that set for other segments of the population?

Having established an umbrella goal, the report turns to recommen-

Table II **Pension Plan Coverage Establishments 1-99 Employees**

Industry	Year and Estimate 1968	1974	1977	DOL Forecasting Model 1995
Manufacturing	32%	46%	50%	55%
Finance	29%	48%	78%	57%
Trade	20%	34%	42%	41%
Services	20%	34%	39%	41%

dations for increasing retirement program coverage.

- The Commission recommends that a Minimum Universal Pension System (MUPS) be established for all workers.

Merits of the proposal aside, use of the word *universal* and stress on *all workers* would indicate that the entire working population (95.4 million) would be included in this mandatory program. This would not be the case since the Commission chose the following minimum standard:

- All employees over the age of 25, with one year of service and 1,000 hours of employment with their employer would be participants in the system. Vesting of benefits would be immediate.

Assuming application to the nonagricultural wage and salary work force, the proposed mandatory system would apply to a maximum of 49.7 million workers. The difference is significant.

The Commission report repeatedly stresses that private pension coverage is "the most serious problem facing the retirement system." The Commission repeatedly stressed that only 45 percent of the total work force was participating in a private pension program. Under reasonable assumptions, MUPS would increase participation to 52 percent of the total work force. Of those workers now meeting the MUPS minimum standard (25-1-1,000), at least 68.3 percent participate in a private pension program.

The Commission's approach raises a number of questions. First, is private pension coverage the major problem? Second, is the word *universal* used appropriately? Third, should the Commission have made it clear that if all current plans adjusted to the MUPS participation standard, participation of the total work force would rise from 45 percent to 52 percent. Fourth, how would the mandatory program help each population group identified above?

The Commission has judged that the ERISA minimum standard — age 25, one year of service, and 1,000 hours of employment — is appropriate criteria for pension participation. This is a judgment with which most witnesses who appeared before the Commission would agree. Discussion of private pension plan coverage should use this minimum standard and focus on the fact that 68.3 percent of the primary work force currently participates in a plan, and 74.1 percent work for an employer having a plan.

The report does not provide sufficient information to reach judgment against the criteria. Additional research and fuller presentation will be needed to assess the merits of mandatory pensions. What are the competitive implications? What are the implications for new business creation and business terminations? What are the implications for the makeup of an employee's total compensation package?

A consistent push for more

The Commission recommendations include a consistent emphasis on allocating additional national resources to retirement income provision.

- The Commission believes that other programs to supplement Social Security's basic floor of protection must be substantially increased.

While this need may exist, the criteria are not satisfied. Cost and consequences analyses are limited. The amount of comprehensive and interactive economic analysis needed to effectively assess the major policy implications would be substantial. Analysis must include assessing the impact on other government expenditures as well as private business expenditures. What programs will be cut back to enable retirement income expenditures to expand?

At a very early stage, the Commission downplayed the potential success of many alternative approaches to increasing retirement income. The Commission's executive director, speaking in Vancouver, B.C., in June, 1979 (only three months after the first meeting of the Commission), noted that tax incentives had not worked in the past and could not be expected to work in the future. The Commission's report presents no research to substantiate this hypothesis, and no working papers were released during the life of the Commission that provided additional insights in this area. The criteria cannot be satisfied. Nonetheless, the Commission concluded:

- Tax incentives, even those proposed by this report, will not significantly increase the pension plan participation of low and moderate income workers and workers employed by small businesses.

This hypothesis deserves to be fully researched and tested before it is used as the basis for justifying major policy changes. Testing would need to be on a dynamic basis, making use of recent data. While limited analysis has been completed, data from the Bureau of Labor Statistics indicates that by 1977 current incentives were having an effect among small employers.

As Table II indicates, Department of Labor projections for 1995 were exceeded by 1977 in certain industries. Plan creation has continued since 1977, with a net of 32,163 new defined benefit plans being formed and a net of 120,357 new defined contribution plans being formed.

The assessment of major policy changes should be based upon most recent data and trends. Only in this way can policy makers be confident of their conclusions.

The Commission's next major group of recommendations focused on spouse benefits.

- Most retirement survivor protection under the pension plan should be mandatory unless there are extenuating circumstances for the couple. The 50 percent joint and survivor options should be provided automatically to the

survivors of workers who die in the 10-year period prior to normal retirement age of the plan.

The report does not provide information sufficient to judge the recommendation against the criteria.

The Commission then recommended that Social Security's normal retirement age be raised to 68 and that ERISA be amended to permit private pension plans to do the same. Information on costs and consequences for Social Security was provided. But, what would the implications be for private or public plans? What problems might employers who have retirement ages specified in negotiated contracts have? What effect would such a change have on confidence in the retirement systems themselves?

There is increasing recognition of the importance of pension programs to human resource management and individual employee behavior. A conclusion on the appropriate role of pensions takes on special significance in this context.

- The Commission believes it is inappropriate to use pension plans largely as recruitment, retention and separation devices. The Commission recommends that other methods be found to carry out these functions and that pension programs be used solely to provide retirement income.

This recommendation's implications and consequences for overall employee benefits policy could be substantial. There are numerous issues that should be researched, since the report does not provide sufficient information to satisfy the criteria. What would be the implications for employer incentives to provide various programs? What are the potential effects on programs such as workers' compensation, unemployment compensation, and worker disability? What would be the implications for future plan creation or for plan terminations?

The Commission turned to state and local government plans only briefly, but reached a major conclusion:

- The Commission recommends that a Public Employee Retirement Income Security Act should be enacted covering the same areas of concern as covered by ERISA.

No analysis is included of the proposal's benefits, costs, or consequences. What would be the effect on taxpayers and state and local budgets? What are the tax rate implications? Such analysis is essential if elected officials are to reach reasoned conclusions on such a recommendation.

Overall, the Commission's report raises numerous questions that are not answered about retirement income programs and policy. The report presents a statement of goals, but not sufficient information to assess their appropriateness for national policy.

Strengthening efforts

The Commission concludes its recommendations with a focus on individual efforts and public assistance:

- The Commission recommends that the tax treatment of savings specifically for retirement should be the same as the tax treatment of pension plans. Favorable tax treatment should be extended to employee contributions to pension plans. A refundable tax credit for low and moderate income people to encourage voluntary individual retirement savings and employee contributions to plans are recommended. At the time of tax filing, the employee would choose the higher of a tax deduction or a tax credit. Contributions and benefit limitations for individuals should be treated more consistently for all types of retirement savings.

What are the implications of these recommendations? What results would they bring? There is a substantial amount of research available which indicates that certain tax incentives would be effective in increasing savings for retirement, but it is not presented in the report. What would be the differential impacts on the various population groups described at the beginning of this review?

Many of the same questions arise with regard to proposals for mandatory pensions and new tax incentives. While the recommendations may have merit, the information is not provided to allow a thorough assessment.

Mark J Waltch
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Juxtaposing its series of recommendations for the development of service and earnings related programs, the Commission turns to that segment of the population with little attachment to the work force:

- The Commission recommends Federal SSI benefits be set at the poverty line level and the asset test be eliminated.

The Commission seeks to increase the level of support provided by SSI to very low income individuals with sporadic work histories through these changes. For how many persons would a welfare type redistributive program be the best means of reasonably assuring an adequate income in post-working years? How does this recommendation integrate with others? Why is the poverty line used as the relevant measure for these persons, while the BLS Intermediate Budget is used as the minimum adequacy level elsewhere?

The Commission's report leaves many substantive questions unanswered. Little information is provided on costs, consequences, affordability, and implications for other areas of national policy. The report may confuse rather than clarify the current status of public and private employer-sponsored pension programs.

Financing the program

The report contains a brief section on the costs of its recommendations. The section does not allow an assessment of underlying assumptions or calculation methods. It does not provide a basis for evaluating how much future government expenditures could decrease if the program were adopted, or potential implications of individual and organizational behavioral changes.

The Commission recognized the "illustrative" nature of its estimates, noting: "The exact values of these estimates are highly dependent on the details and the implementation of specific proposals adopted." It also restated its principal concerns in this section:

- The Commission feels that our nation's retirement income programs are dangerously dependent on pay-as-you-go systems, such as Social Security, supplemental security income, and in-kind benefit programs. Large tax-supported programs have created an imbalance in the overall system, which has serious policy implications for the future. It should also be noted that lack of pension plan coverage for many retirees and inadequate retirement savings for most older Americans place an enormous burden on these programs.

"The difficulty lies not in the new ideas, but in escaping from the old ones."

John Maynard Keynes
The General Theory

The Commission's presentation leaves room for further research regarding financing. The report states that "the only new expense that the Commission recommends is an increase in SSI benefit levels to the poverty line." This does not appear to be the only area for potential additional costs. Included in a listing for further analysis would have to be:

- Minimum Universal Pension System
- Integration changes
- Spouse benefit changes
- Universal Social Security
- Tax treatment changes for Social Security
- Individual savings tax incentives
- Employment of older workers
- Disability changes
- PERISA

The report states that "Federal expenditures for tax-supported, in-kind benefit programs such as food stamps, Medicaid and housing assistance could also be expected to decline as the recommendations take full effect." Would a full analysis of age and wage demographics of the work force indicate that such an assessment is correct? The Commission report provides no research basis to allow one to determine the answers. Such research and analysis is essential for elected officials to reach conclusions. The financing section is not sufficient to meet the initial research criteria.

Priorities for the '80's

The Commission's work represented a monumental effort. Given the substantive breadth and scope they were asked to study, a great deal was accomplished. But, not enough for one to reasonably make decisions affecting the entire American population. The Commission's final report and working papers leave much to be explored. This was made clear by researchers at the Commission's January "Research Conference." Substantial behavioral, benefits, and economic research must still be undertaken. Research regarding the effect of tax incentives is only now beginning. The results of major studies started by the Commission are not yet available.

The Commission's recommendations, were they adopted, could have significant implications for the public and private sectors for:

- the cost of doing business
- the level of employment and new job creation
- the pattern of new business creation
- the scope of government regulation
- future prospects for government mandating of programs
- levels of overall Federal taxation
- distribution of tax incentives amongst and between government programs
- the proportion of gross national product dedicated to retirement income programs
- makeup of the total compensation package

and much more.

There may be areas in which enough is now known, but care should be the watchword.

The Commission's recommendations set out a framework that should be analyzed and conceptually tested. The Commission has given us many questions that should be answered. Priority must be given to new research and analysis, with all parties aiming towards a national retirement income policy based upon solid facts and comprehensive understanding. But, we must move in that direction during the '80's based upon an understanding of the consequences for other national needs and priorities. Before the nation moves to a major restructuring of present programs, more must be known. We are dealing, after all, with the future of every American. □

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Tenth annual survey of bank pooled pension fund accounts

Some shifting of funds occurred in 1980, according to *Pension World*'s 1981 bank pooled pension fund statistics, but there appear to be few surprises. Cash, which last year accounted for 31.5 percent of assets, now accounts for 38.9 percent of the funds and has overtaken common stocks as the most popular investment medium.

Although 63 percent of last year's respondents noted that they intended to increase stock holdings in 1980, the percentage invested in common stocks has decreased for the fourth year in a row, from 85 percent in the 1978 survey to 49 percent in 1979, 39.7 percent in 1980, and 34.08 percent in the 1981 report. Again, however, 63.5 percent of the banks expect to increase their common stock holdings in 1981, while 5.89 percent expect to decrease holdings, and 22.35 percent plan to hold even.

This year's universe of 113 pooled pension fund accounts held by 85 banks invested the remainder of assets in corporate bonds (11.5 percent), real estate (3.27 percent), government bonds and agencies (2.53 percent), and a combination of smaller holdings totaling 1.68 percent. Assets in the 113 pooled accounts total $21.1 billion.

In the 1978 and 1979 surveys, the drop-outs outnumbered the drop-ins. The 1980 survey showed a reversal of this trend, and 1981 continues the new pattern: drop-ins outnumber the drop-outs, 125 to 93. High technology stocks are by far the most prominent drop-ins, and almost every industry is represented in the drop-outs.

The range of stock holdings continues to expand. In 1979, 549 different stock issues were listed in the survey; in 1980, 883 stocks were listed; in this year's survey, stock assets are spread among 1,047 companies.

Fourteen stocks are newcomers to this year's Favorite Fifty list. Mobil Corp. made the most significant new appearance, placing at 15. IBM remains in the top spot, although the percentage of funds that hold it has decreased from 86.7 percent in the 1980 report to 66.4 percent this year. Atlantic Richfield also retained its position as number two, and all of last year's top 10 are in the top 12 this year, except K-mart, which dropped from nine to 21. Energy-related stocks, as a class, remain the favorites, with 10 of the top 50 being oil stocks.

According to statistics published by Computer Directions Advisors, Inc., bank pooled common stock funds have lost some ground to the S&P 500, though both groups continue to perform solidly. For the year ending December 31, 1979, CDA reported the S&P 500 was up 18.5 and the bank pooled common stocks showed a gain of 20.3 for the same period. This year, according to the December 1980 report on "Bank Pooled Funds," published by CDA, the S&P 500 was up 32.5 percent, and the bank pooled common stocks gained 29.6 percent for the year ending December 31, 1980.

What stocks they hold

Stock	% of Funds Holding	Number of Shares Held
Abbott Laboratories	17.7	350,496
ACF Industries	5.3	43,620
Acme-Cleveland Corp.	4.4	16,800
Adobe Oil & Gas Corp.	2.7	11,500
Advanced Micro Devices	1.8	26,360
Aetna Life & Casualty Co.	10.6	453,314
Ahmanson (H. F.) & Co.	4.4	83,800
Air Products & Chemicals	4.4	70,000
Airborne Freight Corp.	1.8	14,600
Akzona	3.5	46,300
Albany International	0.9	1,600
Alberto-Culver Co.	3.5	16,200
Alcan Aluminum Ltd.	8.8	390,826
Alexander & Alexander Services	2.7	81,700
Allegheny Ludlum Industries	0.9	20,000
Allied Bancshares	1.8	39,168
Allied Chemical Corp.	14.2	259,033
Allied Stores Corp.	8.0	130,500
Allis-Chalmers Corp.	8.0	146,800
Alpha Portland Industries	2.7	6,300
Aluminum Co. of America	14.2	229,158
Amalgamated Sugar Co.	2.7	7,600
Amarex	0.9	28,000
AMAX	8.8	329,739
Amdahl Corp.	0.9	2,600
Amerada Hess Corp.	8.0	90,595
American Airlines	2.7	96,100
American Brands	7.1	170,231
American Broadcasting Cos.	13.3	265,083
American Can Co.	8.8	188,317
American Cyanamid Co.	8.8	223,040
American District Telegraph Co.	0.9	1,100
American Electric Power Co.	7.1	514,879
American Express Co.	16.8	490,753
American General Insurance Co.	5.3	144,200
American Home Products Corp.	22.1	1,034,571
American Hospital Supply Corp.	12.4	211,121
American International Group	10.6	218,650
American Medical International	10.6	283,685
American Motors Corp.	3.5	122,200
American National Insurance Co.	0.9	21,500
American Natural Resources Co.	6.2	84,700
American Standard	10.6	358,200
American Stores Co.	5.3	78,936
American Tel. & Tel. Co.	43.4	3,755,678
AMF	6.2	239,500
AMP	12.4	291,768
Ampex Corp.	0.9	13,600
Amstar Corp.	5.3	44,100
Amsted Industries	8.0	96,000
Analog Devices	0.9	16,000
Analogic Corp.	0.9	20,000
Andrew Corp.	0.9	30,000
Anglo Co., Ltd.	3.9	30,000
Anheuser-Busch	9.7	254,994
Apple Computer	2.7	19,850
Applicon	0.9	10,000
Applied Materials	0.9	7,500
ARA Services	8.0	54,800
Archer Daniels Midland Co.	8.0	191,182
Arizona Bank	0.9	17,600
Arkansas Louisiana Gas Co.	2.7	47,000
Armco	12.4	310,909
Armstrong Cork Co.	1.8	80,000
Armstrong World Industries	5.3	82,997
Arrow Electronics	0.9	200
ASA, Ltd.	5.3	73,501
ASARCO	8.0	143,611
Associated Dry Goods Corp.	6.2	115,200
Atlantic Richfield Co.	58.4	1,836,112
Audin Corp.	0.9	34,300
Augat	3.5	88,800
Automatic Data Processing	6.2	51,100
Avantek	1.8	30,000
Avery International Corp.	0.9	1,400
Avnet	0.9	7,100
Avon Products	15.0	449,588
Baker International Corp.	15.0	492,736
Ball Corp.	0.9	5,600
Baltimore Gas & Electric Co.	4.4	116,200
Bancorp Hawaii	0.9	31,000
Bandag	0.9	36,000
Bankamerica Corp.	19.4	767,043
Bankers Trust New York Corp.	4.4	73,406
Bantec	1.8	71,250
Barber-Greene Co.	0.9	5,400
Bard (C. R.)	3.5	36,700
Barnett Banks of Florida	0.9	32,500
Bausch & Lomb	4.4	45,000
Baxter Travenol Laboratories	16.8	397,884
BBDO International	1.8	20,800
Beatrice Foods Co.	16.8	841,753
Beckman Instruments	7.1	106,400
Becton, Dickinson & Co.	7.1	116,300
Beker Industries Corp.	2.7	43,700
Belco Petroleum Corp.	0.9	16,000
Belden Corp.	1.8	750
Bell & Howell	1.8	17,100
Bemis Co.	4.4	14,850
Bendix Corp.	8.0	115,548
Beneficial Corp.	6.2	141,500
Bergen Brunswig Co.	0.9	17,490
Best Products Co.	4.4	75,933
Bethlehem Steel Corp.	8.8	311,395
Betz Laboratories	2.7	15,400
Bic Pen Corp.	0.9	1,500
Big Three Industries	3.5	31,500
Binney & Smith	0.9	7,031
Black & Decker Manufacturing Co.	8.8	216,576
Block (H. & R.)	1.8	88,900
Blue Bell	7.1	112,500
Boeing Co.	21.2	826,310
Boise Cascade Corp.	7.1	109,768
Borden	7.1	128,895
Borg-Warner Corp.	8.8	92,934
Bowne & Co.	0.9	6,400
Bradford National Corp.	0.9	36,200
Briggs & Stratton Corp.	8.8	88,000
Bristol-Myers Co.	24.8	715,285
Brock Hotel Corp.	0.9	43,800
Brooklyn Union Gas Co.	3.5	27,300
Brown & Sharpe Mfg. Co.	2.7	11,200
Brown Co.	1.8	1,900
Brown-Forman Distillers Corp.	1.8	45,000
Brown Group	4.4	29,300
Browning Ferris Industries Co.	8.0	113,400
Brunswick Corp.	4.4	113,700
Bucyrus-Erie Co.	7.1	98,032
Bunker Ramo Corp.	2.7	56,000
Burlington Industries	11.5	305,460
Burlington Northern	8.8	175,150
Burndy Corp.	0.9	30,000
Burns International Services	0.9	6,000
Burnup & Sims	0.9	7,500
Burroughs Corp.	17.7	269,314
Buttes Gas & Oil Co.	0.9	3,000
C3	0.9	55,000
Cabot Corp.	0.9	600
Caldor	1.8	87,000
Cameron Iron Works	1.8	304,000
Campbell Red Lake Mines Ltd.	5.3	62,300
Campbell Soup Co.	7.1	147,083
Canadian Pacific Ltd.	4.4	164,100
Capital Cities Communications	12.4	127,800
Capital Holding Corp.	10.6	143,534
Carnation Co.	7.1	155,240
Carolina Power & Light Co.	4.4	30,800
Carpenter Technology Corp.	1.8	29,000
Carter Hawley Hale Stores	8.0	141,306
Caterpillar Tractor Co.	31.0	665,958
CBI Industries	0.9	4,000
CBS	12.4	169,536
CECO Corp.	0.9	1,600
Celanese Corp.	5.3	59,263
Centex Corp.	6.2	128,800
Central & Southwest Corp.	7.1	372,426
Central Louisiana Energy Corp.	1.8	24,000
Central Tel. & Utilities Corp.	8.0	129,844
Certainteed Corp.	0.9	2,300
Champion International Corp.	14.2	469,125
Champion Spark Plug Co.	7.1	191,300
Charles River Breeding Labs.	0.9	13,500
Charter Co.	0.9	4,100
Chase Manhattan Corp.	8.8	242,215
Chem-Lawn Corp.	0.9	4,350
Chemical New York Corp.	7.1	111,044
Chesebrough-Pond's	12.4	261,000
Chessie System	1.8	36,300
Chicago Pneumatic Tool Co.	4.4	46,300
Chomerics	0.9	2,000
Chrysler Corp.	1.8	39,900
Chubb Corp.	7.1	128,500
Church's Fried Chicken	4.4	49,600
Cincinnati Gas & Electric Co.	1.8	12,300
Cincinnati Milacron	7.1	103,300
Citicorp	14.2	521,643
Cities Communications	0.9	1,000
Cities Service Co.	8.8	404,491
City Investing Co.	0.9	9,500
City National Corp.	0.9	54,000
Clark Equipment Co.	9.7	123,650
Clark (J. L.) Manufacturing Co.	0.9	45,000
Cleveland Cliffs Iron Co.	0.9	10,600
Clorox Co.	4.4	217,600
Cluett, Peabody & Co.	5.3	51,000
CNA Financial Corp.	2.7	163,101
Cobe Laboratories	0.9	60,000
Coca-Cola Bottling Co. of N.Y.	4.4	84,800
Coca-Cola Co.	16.8	568,757
Colgate-Palmolive Co.	13.3	646,660
Collins & Aikman Corp.	1.8	92,100
Colonial Penn Group	1.8	1,000
Color Tile	2.7	103,500
Colt Industries	0.9	27,000
Columbia Gas System	6.2	126,471
Columbia Pictures Industries	4.4	83,400
Combined International Corp.	2.7	20,128
Combustion Engineering	9.7	183,478
Comcast Corp.	0.9	40,000
Commerce Clearing House	0.9	50,000
Commonwealth Edison Co.	9.7	701,520
Community Psychiatric Centers	2.7	41,800
Compact Video System	0.9	3,000
Compugraphic Corp.	1.8	10,700
Computer Sciences Corp.	0.9	5,000
Computervision Corp.	0.9	4,500
Cone Mills Corp.	3.5	21,700
Conn. Gen. Insurance Corp.	7.1	158,413
Conoco	23.0	795,181
Con. Edison Co. of N.Y.	7.1	442,029
Consolidated Foods Corp.	2.7	58,400
Consolidated Freightways	9.7	175,600
Consolidated Natural Gas Co.	5.3	70,787

Stock	% of Funds Holding	Number of Shares Held
Consolidated Paper	1.8	6,000
Continental Corp.	5.3	363,390
Continental Group	10.6	217,953
Continental Illinois Corp.	9.7	200,786
Continental Oil	0.9	6,000
Continental Telephone Corp.	8.0	215,403
Control Data Corp.	9.7	99,600
Cooper Industries	11.5	158,314
Cooper Tire & Rubber Co.	0.9	3,800
Coors (Adolph) Co.	5.3	140,015
Copeland Corp.	5.3	24,100
Corning Glass Works	9.7	111,656
Cox Broadcasting Corp.	6.2	108,300
CP National Corp.	0.9	5,000
CPC International	13.3	137,200
CPT Corp.	1.8	161,250
Crane Co.	5.3	41,400
Cray Research	0.9	20,000
Criton Corp.	0.9	4,500
Crompton & Knowles Corp.	0.9	1,400
Cross & Trecker Corp.	0.9	37,500
Cross (A. T.) Co.	2.7	49,300
Crouse-Hinds Co.	4.4	50,271
Crown Cork & Seal Co.	6.2	67,250
Crown Zellerbach Corp.	9.7	180,207
Crum & Forster	0.9	4,000
Crutcher Resources Corp.	1.8	139,000
CSX Corp.	8.8	212,613
CTS Co.	1.8	44,000
Cummins Engine Co.	7.1	36,646
Curtice-Burns	0.9	8,000
Cyclotron Corp.	0.9	1,000
Dana Corp.	9.7	167,660
Dart Industries	13.3	352,898
Data Card Corp.	0.9	7,500
Data General Corp.	4.4	37,900
Datapoint Corp.	9.7	132,300
Dataproducts Corp.	0.9	38,900
Dataram Corp.	0.9	10,000
Dayton-Hudson Corp.	14.2	297,500
Deere & Co.	17.7	585,652
DeKalb AG Research	1.8	19,000
De Luxe Check Printers	2.7	4,000
Delmed	0.9	50,000
Delta Air Lines	10.6	206,346
Dennison Manufacturing Co.	0.9	12,600
Denny's	7.1	178,200
Deposit Guaranty Corp.	0.9	21,700
Detroit Edison Co.	4.4	391,163
Diamond International Corp.	5.3	62,310
Diamond Shamrock Corp.	8.0	95,730
Dickey John	0.9	500
Diebold	2.7	32,200
Digital Equipment Corp.	27.4	389,494
Disney (Walt) Productions	15.0	225,064
Dr. Pepper Co.	6.2	102,800
Dome Mines Ltd.	5.3	68,000
Dome Petroleum Ltd.	3.5	32,900
Donaldson Co.	0.9	68,000
Donnelley (R. R.) & Sons	1.8	1,200
Dorchester Gas Corp.	0.9	5,000
Dover Corp.	5.3	117,000
Dow Chemical Co.	18.5	1,248,438
Dow Jones & Co.	5.3	72,650
Doyle Dane Bernbach	0.9	10,000
Dravo Corp.	0.9	12,000
Dreco Energy Services Ltd.	0.9	8,725
Dresser Industries	17.7	469,808
Dreyfus Corp.	0.9	1,000
Duke Power Co.	9.7	427,204
Dun & Bradstreet Cos.	13.3	168,650
DuPont (E. I.) de Nemours & Co.	23.9	1,015,616
Duquesne Light Co.	0.9	1,700
Eastern Airlines	0.9	3,000
Eastern Gas & Fuel Associates	5.3	145,300
Eastman Kodak Co.	37.2	1,211,708
Eastmet Corp.	2.7	183,000
Eaton Corp.	10.6	229,428
Echlin Manufacturing Co.	5.3	127,000
Eckerd (Jack) Corp.	15.9	176,320
Economics Laboratory	1.8	127,000
Edison Brothers Stores	1.8	27,600
EG&G	1.8	45,800
El Paso Co.	7.1	202,305
Electro-Nucleonics	0.9	80,000
Electronic Data Systems Corp.	3.5	110,000
Emerson Electric Co.	16.8	503,141
Emery Air Freight	7.1	115,900
Emhart Corp.	0.9	1,750
Empire Pencil Corp.	0.9	7,500
Energy Reserves Group	2.7	30,000
Engelhard Minerals & Chemicals Corp.	17.7	473,434
ENSERCH Corp.	9.7	185,300
Entex	0.9	53,900
Envirotech Corp.	2.7	16,900
Epso	0.9	15,000
Equitable Gas Co.	0.9	700
Equitable S & L Assn. of Oregon	0.9	15,000
E-Systems	0.9	19,666
Esmark	6.2	83,625
Esterline Corp.	1.8	46,000
Ethyl Corp.	1.8	31,500
Evans Products Co.	4.4	145,000
Ex-Cello-O Corp.	8.0	94,400
Exxon Corp.	50.4	2,842,551
Faberge	3.5	21,900
Fairchild Industries	1.8	12,200
Farmers Group	0.9	12,200
Fedders Corp.	0.9	5,200
Federal Co.	0.9	6,000
Federal Express Corp.	4.4	183,900
Federal Mogul Corp.	2.7	82,144
Federal National Mortgage Assn.	5.3	162,900
Federal Paper Board Co.	3.5	26,800
Federated Department Stores	12.4	280,623
Fieldcrest Mills	0.9	1,400
Firestone Tire & Rubber Co.	6.2	242,600
First Bank System	3.5	123,430
First Charter Financial Corp.	7.1	202,424
First Chicago Corp.	4.4	185,000
First City Bancorporation of Texas	2.7	69,900
First International Bancshares	8.8	149,550
First Kentucky National Corp.	0.9	21,500
First Mississippi Corp.	3.5	81,000
First National Boston Corp.	5.3	53,100
First Pennsylvania Corp.	1.8	51,600
Fleetwood Enterprises	6.2	147,000
Fleming Cos.	1.8	33,500
Flexi-Van Corp.	0.9	13,000
Flightsafety International	3.5	59,950
Floating Point System	0.9	2,500
Florida National Banks of Florida	0.9	35,000
Florida Power & Light Co.	13.3	237,914
Florida Steel Corp.	0.9	29,475
Fluke (John) Manufacturing Co.	0.9	38,500
Fluor Corp.	10.6	262,100
FMC Corp.	8.0	195,706
Foote, Cone & Belding Communications	0.9	9,000
Foothill Group	0.9	50,000
Ford Motor Co.	9.7	770,023
Fort Howard Paper Co.	2.7	23,000
Foster Wheeler Corp.	9.7	239,220
Four Phase Systems	2.7	60,400
Fox (Stanley) Photo Products	0.9	81,300
Foxboro Co.	2.7	13,800
Freeport Minerals Co.	8.0	21,750
Fruehauf Corp.	4.4	64,800
Gannett Co.	16.8	224,356
Gates Lear Jet Corp.	0.9	25,410
GCA Corp.	2.7	14,400
Gelco Corp.	2.7	166,750
Gen. Amer. Oil Co. of Texas	7.1	125,093
General Automotive Parts Corp.	3.5	56,300
General Binding Corp.	0.9	20,000
General Cinema Corp.	1.8	33,300
General Datacomm Industries	0.9	37,500
General Defense Corp.	0.9	65,000
General Dynamics Corp.	8.8	240,050
General Electric Co.	46.9	1,430,824
General Foods Corp.	10.6	248,049
General Instruments Corp.	2.7	36,200
General Mills	10.6	274,188
General Motors Corp.	21.2	1,682,168
General Portland Cement Co.	6.2	42,500
General Reinsurance Corp.	3.5	45,200
General Signal Corp.	12.4	186,000
General Tel. & Elec. Corp.	11.5	993,609
Genesco	0.9	6,100
GenRad	1.8	30,700
Genuine Parts Co.	7.1	176,250
Georgia-Pacific Corp.	14.2	538,226
Geosource	0.9	4,300
Gerber Products Co.	4.4	35,400
Getty Oil Co.	17.7	452,308
Giddings & Lewis	4.4	45,298
Gillette Co.	8.8	185,181
Gino's	2.7	10,700
GK Technologies	6.2	54,900
Global Marine	6.2	169,200
Golden West Financial Corp.	3.5	180,500
Goodrich (B. F.) Co.	4.4	85,900
Goodyear Tire & Rubber Co.	8.0	479,269
Gould	8.8	144,308
Grace (W. R.) & Co.	7.1	211,940
Graco	0.9	45,000
Grainger (W. W.)	2.7	78,000
Great Atlantic & Pacific Tea Co.	1.8	12,600
Great Lakes Chemical Corp.	0.9	7,000
Great Northern Nekoosa Corp.	0.9	12,500
Great Western Financial Corp.	7.1	188,900
Greyhound Corp.	0.9	6,700
Grumman Corp.	4.4	104,460
Guaranty National Corp.	0.9	13,633
Guardian Industries Corp.	1.8	16,600
Gulf & Western Industries	5.3	235,524
Gulf Canada Ltd.	4.4	127,000
Gulf Interstate Co.	1.8	107,000
Gulf Oil Corp.	15.0	1,001,828
Gulf States Utilities Co.	1.8	4,000
Gulf United Corp.	1.8	142,800
Hall (Frank B.) & Co.	0.9	28,500
Halliburton Co.	34.5	838,358
Hammermill Paper Co.	1.8	1,500
Handleman Co.	3.5	81,100
Hanna Mining Co.	1.8	20,200
Harcourt Brace Jovanovich	6.2	97,300
Harland (John C.) Co.	0.9	900
Harper Group	1.8	64,200
Harris Corp.	11.5	254,800
Hart Schaffner & Marx	3.5	31,600
Harte-Hanks Communications	3.5	67,600
Hasbro Industries	0.9	7,500
Heck's	1.8	12,900
Heinz (H. J.) Co.	11.5	158,208
Heller (Walter E.) International	5.3	94,000
Helmerich & Payne	1.8	9,000
Henredon Furniture Industries	0.9	4,000
Hercules	10.6	227,300
Hershey Foods Corp.	6.2	59,500
Heublein	12.4	243,500
Hewlett-Packard Co.	15.9	325,084
Hexcel Corp.	1.8	2,500
Hi-Shear Corp.	0.9	2,000
High Voltage Engineering Corp.	0.9	75,000
Hilton Hotels Corp.	10.6	248,792
Hobart Corp.	7.1	81,100

Stock	% of Funds Holding	Number of Shares Held
Holiday Inns	8.8	236,200
Holly Sugar Corp.	2.7	6,000
Homestake Mining Co.	6.2	79,750
Honeywell	15.0	139,991
Hospital Corp. of America	15.9	346,398
Household Finance Corp.	9.7	299,578
Houston Industries	4.4	67,100
Houston Natural Gas Corp.	5.3	42,200
Houston Oil & Minerals Corp.	5.3	235,800
Hubbell (Harvey), Class B	0.9	46,200
Hudson Bay Mining and Smelting	2.7	37,200
Hughes Tool Co.	19.4	298,056
Humana	8.8	170,647
Hunt (Philip A.) Chemical Corp.	0.9	7,500
Hunt Manufacturing Co.	0.9	10,000
Hutton (E. F.) Group	0.9	18,750
Hyster Co.	3.5	44,240
IC Industries	6.2	81,400
Ideal Basic Industries	8.0	83,247
Ideal Toy Corp.	2.7	16,405
Illinois Power Co.	2.7	9,800
Imperial Corp. of America	0.9	12,200
Imperial Oil Ltd.	1.8	12,900
IMS International Corp.	0.9	25,000
INA Corp.	9.7	298,104
Inco Ltd.	8.8	376,484
Indianapolis Power & Light Co.	0.9	5,200
Industrial National	0.9	800
Inexco Oil Co.	1.8	180,000
Ingersoll-Rand Co.	8.0	105,446
Inland Steel Co.	6.2	118,861
Instrumentation Laboratory	1.8	58,500
Intel Corp.	11.5	238,972
Interco	7.1	79,500
Interlake	4.4	36,968
International Business Machines	66.4	3,714,290
International Flavors & Fragrances	8.0	185,201
International Harvester Co.	5.3	149,625
International Minerals & Chemicals Corp.	11.5	199,550
International Paper Co.	13.3	274,246
International Rectifier Corp.	0.9	90,000
International Tel. & Tel. Corp.	19.4	913,635
Internorth	5.3	164,578
Interpublic Group of Companies	3.5	96,700
Iowa Beef Processors	6.2	117,200
Irving Bank Corp.	0.9	16,400
IU International Corp.	1.8	26,800
James (Fred S.) & Co.	0.9	60,000
Jefferson Pilot Corp.	8.8	113,553
Jerrico	0.9	4,100
Jewel Cos.	7.1	57,500
Johns-Manville Corp.	8.8	268,408
Johnson & Johnson	19.4	425,068
Johnson Controls	1.8	10,800
Josten's	0.9	18,000
Joy Manufacturing Co.	11.5	108,819
Justin Industries	0.9	8,750
JWT Group	3.5	26,475
Kaiser Aluminum & Chemical	10.6	311,682
Kaiser Cement Corp.	0.9	50,700
Kaneb Services	3.5	23,300
Kansas City Southern Industries	0.9	31,300
Kaufman & Broad	2.7	45,801
Kellogg Co.	8.0	357,497
Kellwood Co.	0.9	30,000
Kenai Corp.	0.9	1,500
Kennecott Corp.	8.0	189,546
Kerr-McGee Corp.	4.4	21,800
Kidde (Walter) & Co.	1.8	7,150
Kimberly Clark Corp.	10.6	268,547
Kinder-Care Learning Centers	0.9	62,500
K-mart Corp.	24.8	865,586
Knight-Ridder Newspapers	4.4	28,000
Koehring Co.	0.9	400
Koger Properties	1.8	160,000
Kollmorgen Corp.	0.9	5,000
Koppers Co.	2.7	18,000
Kraft	0.9	6,700
Kroehler Manufacturing Co.	0.9	600
Kroger Co.	7.1	182,000
Kroy Industries	0.9	8,000
Kyoto Ceramic Ltd.	0.9	30,000
Lance	1.8	8,750
Lane Co.	0.9	1,300
Lanier Business Products	2.7	53,700
Lawson Products	0.9	30,000
Lawter Chemical	1.8	40,000
Lear Petroleum	0.9	5,000
Lear Siegler	2.7	73,000
Leaseway Transportation Corp.	3.5	97,000
Leggett & Platt	0.9	50,600
Lenox Industries	4.4	27,150
Leslie Fay	0.9	13,400
Levi Strauss & Co.	11.5	271,800
Libbey-Owens-Ford Co.	4.4	109,500
Liberty Corp.	0.9	2,400
Liberty National Life Ins. Co.	1.8	12,000
Lifemark Corp.	0.9	8,800
Lilly (Eli) & Co.	21.2	481,521
Lin Broadcasting Corp.	1.8	76,000
Lincoln National Corp.	10.6	162,451
Litton Industries	7.1	202,733
Loews Corp.	1.8	4,100
Logan (Jonathan)	2.7	19,185
Lomas & Nettleton Financial Corp.	0.9	50,000
Lone Star Industries	7.1	53,354
Longs Drug Store	2.7	51,900
Longview Fibre Co.	0.9	3,000
Loral Corp.	6.2	42,900
Louisiana Land & Exploration Co.	8.0	170,500
Louisiana Pacific Corp.	7.1	142,149
Louisville Gas & Electric Co.	0.9	500
Lowe's Cos.	3.5	55,720
Lowenstein (M.) & Sons	2.7	12,600
Lubrizol Corp.	12.4	132,800
Lucky Stores	8.8	258,880
M/A-Com	5.3	193,500
Macke & Co.	3.5	16,600
MacMillan	4.4	117,000
MacMillan Bloedel Ltd.	0.9	15,000
Macy (R. C.) & Co.	7.1	155,007
Magma Power Co.	0.9	15,000
Magnuson Computer Systems	0.9	11,000
Mallinckrodt	2.7	44,200
Malone & Hyde	0.9	23,320
Management Assistance	1.8	94,000
Manitowoc Co.	0.9	10,000
Manufacturers Hanover Corp.	5.3	138,071
MAPCO	6.2	53,107
Marathon Oil Co.	8.8	75,700
Marion Corp.	0.9	2,000
Marley Co.	0.9	5,500
Marriott Corp.	5.3	103,509
Marsh & McLennan Cos.	8.0	97,000
Marshall Field & Co.	4.4	137,100
Martin Marietta Corp.	8.8	158,750
Maryland Cup Corp.	3.5	25,666
Masco Corp.	3.5	152,700
Masonite Corp.	6.2	108,148
Massey-Ferguson	1.8	10,800
Materials Research Corp.	0.9	14,000
Mattel	0.9	10,000
May Department Stores Co.	8.0	164,340
May Petroleum	1.8	35,500
Maytag Co.	9.7	161,100
MCA	13.3	177,078
McCormick & Co.	3.5	26,484
McDermott (J. Ray) & Co.	8.8	204,842
McDonald's Corp.	21.2	246,544
McDonnell Douglas Corp.	8.8	234,927
McFarland Energy	0.9	16,000
McGraw-Edison Co.	7.1	138,300
McGraw-Hill	9.7	193,600
MCI Communications	0.9	85,000
McLean Trucking Co.	2.7	52,300
McRae Consolidated Oil & Gas	0.9	63,000
Mead Corp.	6.2	326,000
Measurex Corp.	6.2	107,100
Media General	0.9	9,000
Medtronic	8.8	296,000
MEI Corp.	0.9	88,300
Mellon National Bank	3.5	67,100
Mellon National Corp.	1.8	52,700
Melville Corp.	7.1	102,979
Mercantile Stores Co.	0.9	300
Merck & Co.	30.1	580,686
Meredith Corp.	3.5	11,900
Merrill Lynch & Co.	1.8	6,000
Mesa Petroleum Co.	8.0	264,800
Mesa Royalty Trust	1.8	23,800
Metro-Goldwyn-Mayer Film Co.	5.3	130,883
Metromedia	5.3	28,200
Meyer (Fred)	0.9	2,121
MGIC Investment Corp.	6.2	113,600
Middle South Utilities	6.2	523,893
Midland Ross Corp.	0.9	12,000
Miller (Herman)	0.9	5,000
Miller-Wohl Co.	1.8	71,500
Millipore Corp.	7.1	122,100
Milton Bradley Co.	7.1	72,700
Minerals & Resources Corp.	0.9	7,300
Minnesota Mining & Mfg. Co.	26.5	823,743
Missouri Pacific Railroad Co.	5.3	72,500
Mitchell Energy & Development	3.5	19,000
Mobil Corp.	28.3	1,350,627
Modular Computer Svc. Systems	0.9	13,000
Mohasco Corp.	3.5	24,800
Monarch Capital Corp.	0.9	200
Monarch Machine Tool Co.	2.7	12,600
Monogram Industries	1.8	28,000
Monolithic Memories	1.8	10,000
Monsanto Co.	15.9	251,631
MONY Mortgage Investors	0.9	27,000
Moog	1.8	117,200
Moore McCormack Resources	0.9	37,500
Moran Energy	0.9	71,736
Morgan (J. P.) & Co.	17.7	325,038
Morrison's	0.9	1,450
Morrison-Knudsen Co.	3.5	44,400
Morton-Norwich Products	2.7	83,000
Motorola	15.0	294,530
MTS Systems Corp.	0.9	4,000
Murphy Oil Corp.	3.5	38,500
Nabisco	8.8	546,512
Nalco Chemical Co.	2.7	55,400
National Can Corp.	5.3	45,100
National City Bancorporation	2.7	4,400
National Convenience Stores	0.9	54,000
National Detroit Corp.	0.9	32,000
National Distillers & Chemical	6.2	230,600
National Gypsum Co.	5.3	197,400
National Medical Care	6.2	628,250
National Medical Enterprises	5.3	107,072
National Semiconductor Corp.	12.4	263,850
National Service Industries	0.9	1,700
National Steel Corp.	6.2	346,880
Natomas Co.	2.7	172,975
NCNB Corp.	3.5	120,651
NCR Corp.	14.2	219,600
Network System Corp.	0.9	1,340
New England Electric System	4.4	74,800
New England Nuclear Corp.	2.7	96,500
New York Times Co.	2.7	96,200
Newmont Mining Corp.	8.8	122,280
Newpark Resources	0.9	3,500
Newport Pharmaceuticals Int'l	0.9	10,000
NFC Corp.	0.9	10,000

Stock	% of Funds Holding	Number of Shares Held
Niagra Mohawk Power Corp.	4.4	266,710
Nicklos Oil & Gas	1.8	301,060
Nicor	0.9	47,000
Nielson (A. C.) Co.	0.9	32,000
Nike	0.9	4,835
NL Industries	13.3	297,800
NLT Corp.	8.8	203,982
Noble Affiliates	5.3	303,582
Nordstrom	1.8	4,300
Norfolk & Western Railway Co.	8.8	161,300
Norris Industries	0.9	60,000
North American Coal Corp.	2.7	12,500
North American Philips Corp.	0.9	1,000
Northern Indiana Pub. Svc. Co.	3.5	11,300
Northern States Power Co.	8.0	144,232
Northern Telecom Ltd.	3.5	411,532
Northwest Airlines	9.7	183,542
Northwest Bancorporation	7.1	125,400
Northwest Industries	9.7	267,770
Norton Co.	1.8	60,500
Norton Simon	8.8	271,526
Noxell Corp.	2.7	52,600
Nucor Corp.	0.9	27,600
Oak Industries	0.9	1,500
Occidental Petroleum Corp.	2.7	77,000
Ocean Drilling & Exploration Co.	2.7	14,000
Ogden Corp.	1.8	40,300
Ogilvy & Mather	0.9	20,000
Ohio Edison Co.	5.3	258,506
Ohio-Sealy Mattress Mfg. Co.	0.9	10,000
OKC Corp.	0.9	300
Oklahoma Gas & Electric Co.	0.9	1,200
Oklahoma Natural Gas Co.	0.9	1,250
Oneok	2.7	34,200
Oscar Mayer & Co.	5.3	64,300
Outboard Marine Corp.	5.3	95,200
Outlet Co.	0.9	35,000
Overnite Transportation Co.	1.8	5,100
Overseas Shipholding	0.9	3,000
Owens-Corning Fiberglas Corp.	8.0	143,600
Owens-Illinois	9.7	182,987
Pabst Brewing Co.	4.4	33,000
PACCAR	4.4	43,420
Pacific Gas & Electric Co.	8.8	517,745
Pacific Lighting Corp.	6.2	122,226
Pall Corp.	0.9	45,000
Palm Beach	1.8	84,000
Pan American World Airways	1.8	235,101
Panhandle Eastern Pipe Line Co.	8.8	169,399
Parker Drilling Co.	5.3	228,700
Parker-Hannifin Corp.	2.7	17,900
Parker Pen Co.	2.7	72,684
Parsons (Ralph M.) Corp.	2.7	29,100
Patrick Petroleum Co.	1.8	83,500
Pay Less Cashways	0.9	1,600
Pay 'N Pak Stores	0.9	1,000
Pay-N-Save Corp.	1.8	16,400
Peabody International Corp.	3.5	39,411
JCPenney Co.	10.6	405,064
Pennwalt Corp.	0.9	107,800
Pennzoil Co.	8.0	116,900
Peoples Energy Corp.	6.2	103,234
Peoples Express Airlines	0.9	7,200
Pepsico	18.5	607,192
Perkin-Elmer Corp.	14.2	108,100
Petrie Stores Corp.	2.7	47,800
Petrolane	3.5	75,600
Petroleum Equipment Tools Co.	2.7	35,400
Pfizer	19.4	444,298
Phelps Dodge Corp.	8.0	118,926
PHH Group	1.8	37,000
Philadelphia Electric Co.	4.4	405,923
Philadelphia Suburban Corp.	0.9	3,800
Philip Morris	36.3	875,691
Phillips Petroleum Co.	27.4	1,130,278
Pillsbury Co.	5.3	228,923
Pioneer Corp. of Texas	3.5	52,900
Pioneer Hi Bred International	0.9	150,000
Pitney-Bowes	8.0	112,700
Pittsburgh National Corp.	0.9	1,300
Pittston Co.	10.6	226,792
Pittway Corp.	0.9	2,500
Plantronics	1.8	170,800
Plessey	0.9	500
Playboy Enterprises	0.9	7,100
Pogo Producing Co.	0.9	3,500
Polaroid Corp.	7.1	179,847
Pope & Talbot	0.9	47,600
Porta System Corp.	0.9	35,000
Potlatch Corp.	4.4	59,519
Potomac Electric Power Co.	0.9	3,000
PPG Industries	7.1	46,150
Premier Industrial Corp.	1.8	60,000
Prime Computer	2.7	126,750
Proctor & Gamble Co.	15.9	535,337
Provident Life & Accident Insurance Co.	0.9	500
Public Service Co. of Colorado	1.8	10,100
Public Service Co. of Indiana	6.2	202,358
Public Service Electric & Gas Co.	5.3	299,723
Puget Sound Power & Light Co.	0.9	8,000
Purex Industries	6.2	174,600
Quadrex Corp.	0.9	15,000
Quaker Oats Co.	7.1	85,000
Quaker State Oil Refining Corp.	2.7	145,000
Quanex Corp.	0.9	2,000
Questor Corp.	2.7	36,679
Ralston Purina Co.	11.5	569,683
Ramada Inns	2.7	99,000
Raychem Corp.	2.7	6,000
Raymond International	0.9	50,000
Raytheon Co.	3[illegible].5	383,504
RCA Corp.	11.5	369,148
Reading & Bates Offshore Drilling Co.	6.2	74,775
Redman Industries	3.5	34,301
Reeves Brothers	3.5	9,320
Republic Corp.	2.7	49,100
Republic New York Corp.	0.9	3,000
Republic of Texas Corp.	2.7	65,350
Republic Steel Corp.	4.4	92,700
Research Cottrell	0.9	20,000
Revco (D. S.)	10.6	191,900
Revere Copper & Brass	2.7	21,100
Revlon	15.9	144,444
Rexnord	5.3	153,800
Reynolds & Reynolds Co.	3.5	71,900
Reynolds (R. J.) Industries	27.4	651,298
Reynolds Metals Co.	7.1	137,840
Richardson-Merrell	1.8	34,700
Rio Grande Industries	0.9	4,000
Rite Aid Corp.	5.3	70,300
RLC Corp.	0.9	6,000
Roadway Express	7.1	91,600
Robertson (H. H.) Co.	0.9	800
Robins (A. H.) Co.	0.9	3,000
Rockwell International Corp.	8.0	327,904
Rogers Corp.	0.9	1,000
Rohm & Haas Co.	0.9	11,400
Rollins	0.9	11,000
Rolm Corp.	5.3	128,900
Roper Corp.	3.5	64,400
Rorer Group	2.7	20,900
Rowan Ltd.	5.3	613,300
Royal Crown Cos.	4.4	72,600
Royal Dutch Petroleum Co.	8.0	694,900
Rubbermaid	0.9	10,000
Russ Togs	0.9	32,000
Russell Corp.	0.9	1,700
Ryan Corp.	0.9	56,250
Ryder System	2.7	61,508
Ryland Group	0.9	10,000
Sabine Corp.	2.7	53,750
SAFECO Corp.	6.2	82,250
Safeguard Business Systems	1.8	4,200
Safety-Kleen Corp.	0.9	200,000
Safeway Stores	9.7	189,763
Saga Corp.	0.9	4,000
St. Joe Minerals Corp.	8.8	201,500
St. Louis-San Fran. Railway Co.	0.9	300
St. Paul Cos.	8.0	172,564
St. Regis Paper Co.	7.1	146,450
Sanders Associates	4.4	80,600
Santa Fe Industries	11.5	183,216
Santa Fe International Corp.	15.9	7,539,097
Sav-A-Stop	0.9	10,000
Sceptre Resources Ltd.	0.9	4,000
Schering-Plough Corp.	15.0	362,508
Schlitz (Jos.) Brewing Co.	4.4	113,700
Schlumberger Ltd.	46.9	1,129,939
Scientific-Atlanta	1.8	25,300
SCM Corp.	2.7	9,800
Scott & Fetzer Co.	1.8	32,200
Scott Paper Co.	6.2	158,782
Scotty's Inc. Co.	0.9	18,000
Sea Containers	1.8	40,900
Seaboard Coast Line Industries	0.9	91,086
Seagram Co. Ltd.	8.0	234,430
Sealed Air Corp.	1.8	45,000
Sealed Power Corp.	1.8	11,400
Searle (G. D.) & Co.	8.0	353,400
Sears, Roebuck & Co.	12.4	1,448,530
Security Pacific Corp.	3.5	35,420
Sedco	7.1	93,600
Sensormatic Electronics Corp.	3.5	37,700
Service Merchandise	0.9	125,000
Servicemaster Industries	4.4	82,500
SFN Cos.	3.5	44,000
Shared Medical Systems Corp.	3.5	68,400
Shell Oil Co.	12.4	1,395,359
Sherwin-Williams Co.	4.4	57,400
Signal Cos.	8.8	350,450
Singer Co.	3.5	64,600
Skyline Corp.	4.4	47,500
Smith International	6.2	52,700
SmithKline Corp.	17.7	446,686
Snap-on Tools Corp.	4.4	132,065
Sonoco Products Co.	0.9	1,100
Sony Corp.	1.8	3,200
Sotheby Park Bernet Group Ltd.	1.8	50,000
South Carolina Electric & Gas Co.	0.9	8,700
South Jersey Industries	0.9	1,200
Southern California Edison Co.	8.8	309,127
Southern Co.	5.3	952,204
Southern Natural Resources	14.2	249,600
Southern Pacific Co.	6.2	123,298
Southern Railway Co.	15.9	132,134
Southland Corp.	1.8	15,800
Southland Royalty Co	1.8	46,000
Southwest Airlines Co.	1.8	37,900
Southwest Bankshares	0.9	11,000
Spectra Physics	1.8	27,000
Sperry Rand Corp.	13.3	252,370
Springs Mills	3.5	35,800
SPS Technologies	1.8	9,140
Square D Co.	11.5	293,950
Squibb Corp.	5.3	9,400
Staley (A. E.) Manufacturing Co.	1.8	19,500
Stanadyne	0.9	5,650
Standard Brands	17.7	261,266
Standard Oil Co. (Indiana)	38.9	1,818,484
Standard Oil Co. of California	29.2	918,732
Standard Oil Co. (Ohio)	15.9	273,200
Stanley Works	0.9	55,000
Stauffer Chemical Co.	8.8	220,900
Sterling Drug	8.0	264,100
Stevens (J. P.) & Co.	4.4	110,850
Stokely-Van Camp	2.7	12,300

Stock	% of Funds Holding	Number of Shares Held
Stone & Webster	0.9	200
Storage Technology Corp.	1.8	9,000
Storer Broadcasting Co.	0.9	3,500
Subaru of America	1.8	21,300
Sullair Corp.	0.9	9,000
Sun Banks of Florida	1.8	28,400
Sun Co.	8.8	585,600
Sunbeam Corp.	5.3	92,700
Sundance Oil Co.	0.9	1,500
Sundstrand Corp.	8.0	136,700
Sunshine-Jr. Stores	0.9	37,500
Super Value Stores	0.9	40,000
Superior Oil Co.	22.1	217,550
Swank	0.9	6,600
Sybron Corp.	0.9	10,000
Syntex Corp.	5.3	30,500
Sysco Corp.	1.8	67,800
Taft Broadcasting Co.	6.2	110,300
Tampax	0.9	3,800
Tandem Computers	2.7	89,850
Tandy Corp.	13.3	169,550
Tektronix	11.5	104,850
Teleco Oilfield Services	0.9	75,000
Teledyne Corp.	6.2	62,200
Tellabs	0.9	3,900
Tenneco	14.2	581,400
Teradyne	1.8	4,000
Tesoro Petroleum Corp.	0.9	4,700
Texaco	1.9	1,355,224
Texas Commerce Bancshares	5.3	100,334
Texas Eastern Corp.	12.4	151,305
Texas Gas Transmission Corp.	7.1	101,700
Texas Industries	2.7	54,100
Texas Instruments	14.2	105,854
Texas International Co.	0.9	10,000
Texas Oil & Gas Corp.	12.4	279,000
Texas Utilities Co.	12.4	482,594
Texasgulf	8.0	146,185
Textron	11.4	272,200
Thiokol Corp.	0.9	18,000
Thomas & Betts Corp.	6.2	36,600
Thompson Medical Co.	0.9	10,000
Tidewater	7.1	167,650
TIE Communications	0.9	2,000
Tiger International	2.7	86,700
Time	8.8	149,669
Times Mirror Co.	7.1	142,042
Timken Co.	8.0	60,141
Tonka Corp.	2.7	6,154
Toro Co.	0.9	5,000
Tosco Corp.	3.5	5,300
Towle Manufacturing Co.	0.9	20,000
Toys R Us	5.3	224,300
Tracor	0.9	7,400
Trane Co.	5.3	47,748
Trans Union Corp.	1.8	20,800
Transamerica Corp.	8.0	320,800
Transco Cos.	5.3	13,200
Transohio Financial	0.9	1,157
Transway International Corp.	1.8	13,500
Travelers Corp.	11.5	173,397
Triad Systems Corp.	1.8	16,475
Triangle Pacific Corp.	0.9	5,000
Trinity Industries	1.8	45,000
TRW	14.2	183,582
Twentieth Century-Fox Film Corp.	6.2	201,564
Tyco Laboratories	1.8	28,800
Tylan Corp.	0.9	6,875
Tyler Corp.	1.6	19,000
Tymshare	1.8	45,000
UAL	5.3	138,500
UMC Industries	5.3	82,800
UNC Resources	0.9	3,800
Unilever	6.2	236,459
Union Camp Corp.	16.8	158,840
Union Carbide Corp.	12.4	383,466
Union Oil Co. of Calif.	21.2	979,752
Union Pacific Corp.	21.2	474,908
Uniroyal	2.7	100,300
United Brands Co.	0.9	2,000
United Energy Resources	0.9	30,000
United Industrial Syndicate	0.9	4,400
United Inns	0.9	2,300
U.S. Air	0.9	3,250
U.S. Bancorporation	0.9	6,600
U.S. Fidelity & Guaranty	8.8	150,842
United States Gypsum Co.	9.7	180,056
United States Home Corp.	9.7	427,750
United States Shoe Corp.	1.8	6,000
U.S. Steel Corp.	6.2	340,975
U.S. Surgical Corp.	1.8	18,100
United States Tobacco Co.	2.7	33,700
United Technologies Corp.	15.0	279,808
United Telecommunications	9.7	380,275
United Virginia Bankshares	0.9	30,000
Unitrode Corp.	0.9	3,000
Universal Leaf Tobacco Co.	0.9	1,100
Upjohn Co.	9.7	161,800
Utah Power & Light Co.	0.9	1,000
UTD Technologies	0.9	8,400
Vaal Reefs Exploration & Mining	1.8	3,100
Valero Energy Corp.	0.9	4,700
Valley National Bank (AZ)	0.9	3,000
Varian Associates	1.8	9,755
Veeco Instruments	1.8	7,550
VF Corp.	5.3	81,600
Virginia Electric & Power Co.	5.3	363,900
Wachovia Corp.	1.8	32,200
Wal Mart Stores	1.8	30,000
Walgreen Co.	3.5	26,110
Walker (Hiram) Consumer Home	5.3	268,637
Walter (Jim) Corp.	9.7	102,000
Wang Laboratories	11.5	380,990
Warnaco	0.9	175
Warner Communications	11.5	164,726
Warner-Lambert Co.	12.4	567,539
Waste Management	5.3	40,300
Watkins-Johnson Co.	2.7	44,900
Weatherford International	0.9	40,000
Wells Fargo & Co.	6.2	43,742
Westburne International Industries Ltd.	2.7	38,000
Western Bancorporation	9.7	207,449
Western Co. of North America	3.5	75,500
Western Deep Levels Ltd.	1.8	4,100
Western Digital	0.9	40,000
Westinghouse Electric Corp.	7.1	333,959
Westmoreland Coal Co.	3.5	25,900
WestPoint Pepperell	6.2	52,820
Westvaco Corp.	4.4	66,807
Weyerhaeuser Co.	15.0	813,509
Wheelabrator-Frye	8.0	113,692
Wheeling-Pittsburgh Steel Corp.	2.7	14,300
Whirlpool Corp.	5.3	174,600
White Consolidated Industries	1.8	138,100
Whittaker Corp.	5.3	160,200
Willamette Industries	1.8	16,129
Williams Cos.	8.8	189,800
Winn-Dixie Stores	6.2	94,330
Wisconsin Electric Power Co.	8.8	197,974
Witco Chemical Corp.	1.8	25,400
Woolworth (F. W.) Co.	6.2	210,288
Worthington Industries	0.9	45,000
Wrigley (William, Jr.) Co.	3.5	29,600
Wyle Laboratories	0.9	1,563
Xerox Corp.	26.5	755,854
Xidex Corp.	1.8	7,900
Yellow Freight Systems	6.2	142,300
Zenith Radio Corp.	6.2	74,700
Zurn Industries	0.9	1,700

The drop-ins

Albany International Corp.
Allegheny Ludlum Industries
Allied Bancshares
Amdahl Corp.
Ampex Corp.
Analogic Corp.
Andrew Corp.
Applicon
Arrow Electronics
Avery International Corp.
Ball Corp.
Bantec, Inc.
Bell & Howell Co.
Bergen Brunswig Co.
Bic Pen Corp.
Bowne & Co.
Brown-Forman Distillers Corp.
Burns International Services
Burnup & Sims
Buttes Gas & Oil Co.
Canadian Pacific Ltd.
CECO Corp.
Charter Co.
Chem-Lawn Corp.
City Investing Co.
City National Corp.
Comcast Corp.
Compact Video System
Computervision Corp.
Cray Research
Criton Corp.
Cross & Trecker Corp.
Cyclotron Corp.
DeKalb AG Research
Dennison Manufacturing Co.
Dickey John
Doyle Dane Bernbach
Dreyfus Corp.
Duquesne Light Co.
Economics Laboratory
Electro-Nucleonics
Energy Reserves Group

Epsco
Equitable Gas Co.
Federal Co.
Federal Mogul Corp.
Flexi-Van Corp.
Floating Point System
Fluke (John) Manufacturing Co.
Foote, Cone & Belding Communications
Greyhound Corp.
Guardian Industries Corp.
High Voltage Engineering Corp.
Hunt (Philip A.) Chemical Corp.
Instrumentation Laboratory
Irving Bank Corp.
James (Fred S.) & Co.
Kenai Corp.
Kollmorgen
Kyoto Ceramic Ltd.
Lear Petroleum Corp.
Lomas & Nettleton Financial Corp.
Louisville Gas & Electric Co.
Magnuson Computer Systems
Marion Corp.
Mattel
Media General
Mellon National Corp.
Miller-Wohl Co.
Minerals & Resources Corp.
Monolithic Memories
Moog
Newpark Resources
Newport Pharmaceuticals International
NFC Corp.
Nike
North American Philips Corp.
Oak Industries
OKC Corp.
Pall Corp.
Parsons (Ralph M.) Co.
Patrick Petroleum Co.
Pay Less Cashways
Pay 'N Pac Stores
Philadelphia Suburban Corp.
Pittway Corp.
Plessey
Playboy Enterprises
Pogo Producing Co.
Provident Life & Accident Insurance Co.
Quaker State Oil Refining Corp.
Quanex Corp.
RLC Corp.
Robertson (H. H.) Co.
Robins (A. H.) Co.
Rogers Corp.
Rohm & Haas Co.
Safeguard Business Systems
Sceptre Resources Ltd.
South Jersey Industries
Southwest Bankshares
SPS Technologies
Staley (A. E.) Mfg. Co.
Stone & Webster
Storer Broadcasting Co.
Sundance Oil Co.
Swank
Teleco Oilfield Services
Tellabs
Tracor
Triad Systems Corp.
Tyco Laboratories
Tylan Corp.
Tyler Corp.
United Brands Co.
United Inns
United States Shoe Corp.
Unitrode Corp.
U.S. Air
Utah Power & Light Co.
Vaal Reefs Exploration & Mining
Valero Energy Corp.
Valley National Bank (AZ)
Weatherford International
Western Deep Levels, Ltd.
Western Digital
Xidex Corp.
Zurn Industries

The drop-outs

Albertson's, Inc.
American Greetings Corp.
American Quasar Petroleum Co.
Ameritrust Co.
Ametek, Inc.
Anchor Hocking Corp.
Aquitaine Co. of Canada
Ashland Oil
Bank of New York
Beech Aircraft Corp.
Bow Valley Industries, Ltd.
Braun (C. F.) & Co.
British Petroleum Ltd.
Brown (Tom) Inc.
Butler Manufacturing Co.
Campbell Taggart
Castle & Cooke
Centronics Data Computer Corp.
Cessna Aircraft Co.
C.I.T. Financial
Clark Oil & Refining Corp.
Cleveland Elec. Illuminating Co.
Coleman Co.
Combined Insurance Co. of America
Communications Satellite Corp.
Congoleum Corp.
Delta Queen Steamboat Co.
Dillon Companies
ERC Corp.
Ferro Corp.
Fischbach Corp.
GATX Corp.
Girard Co.
GRI Corp.
Flintkote Co.
Foremost-Mckesson
Gulf Resources & Chemical
Harrah's
Hazleton Laboratories Corp.
Hecla Mining Co.
Howard Johnson Co.
Husky Oil Co.
Illinois Tool Works
Independent Life & Accident Insurance Co.
International Multifoods Corp.
International Shipholding Corp.
Itel Corp.
Kansas Power & Light Co.
Kelly Services
Kings Department Stores
Larsen (Gotaas) Shipping
Liggett Group
Loctite Corp.
McMoran Oil & Gas Co.
Modern Merchandising
Mountain Fuel Supply Co.
National Fuel Gas Co.
Northern Industrial Pub. Svc.
Northern Natural Gas Co.
Northrop Corp.
Northwest Natural Gas Co.
Northwestern National Life Insurance Co.
Nowsco Well Service
Pacific Gamble Robinson Co.
Pacific Lumber Co.
Pennsylvania Power & Light Co.
Petrolite Corp.
Ponderosa System
Pullman
Reserve Oil & Gas
Royster Co.
Scovill
Seafirst Corp.
Signode Corp.
Smucker (J. M.) Co.
Southwestern Life Corp.
Stewart & Stephenson Services
Suburban Propane Gas Corp.
Sun Electric Corp.
Supron Energy Corp.
Tucson Electric Power Co.
U.S. Life Corp.
Victoria Station
VSI Corp.
Warner & Swasey Co.
Washington Energy Co.
Washington National Insurance Co.
Waters Associates
Western Casualty & Surety Co.
Wicor
Wisconsin Gas Co.
Wisconsin Public Service Corp.
Wynn's International
Zayre Corp.

The favorite fifty

Stock	Rank 1981	Rank 1980	% of Funds Holding	Number of Shares Held
International Business Machines Corp.	1	1	66.4	3,714,290
Atlantic Richfield Co.	2	2	58.4	1,836,112
Exxon Corp.	3	4	50.4	2,842,551
General Electric Co.	4	6	46.9	1,430,824
Schlumberger Ltd.	5	5	46.9	1,129,939
American Telephone & Telegraph Co.	6	3	43.4	3,755,679
Standard Oil Co. (Indiana)	7	8	38.9	1,818,484
Eastman Kodak Co.	8	16	37.2	1,211,708
Philip Morris	9	7	36.3	875,691
Halliburton Co.	10	18	34.5	838,358
Raytheon Co.	11	17	34.5	383,504
Caterpillar Tractor Co.	12	10	31.0	665,958
Merck & Co.	13	26	30.1	580,686
Standard Oil Co. of California	14	12	29.2	918,732
Mobil Corp.	15	—	28.3	1,350,627
Phillips Petroleum	16	14	27.4	1,130,278
Reynolds (R. J.) Industries	17	—	27.4	651,298
Digital Equipment Corp.	18	24	27.4	398,494
Minnesota Mining & Manufacturing Co.	19	20	26.5	823,743
Xerox Corp.	20	11	26.5	755,854
K-mart Corp.	21	9	24.8	865,586
Bristol-Myers Co.	22	—	24.8	715,285
DuPont (E. I.) de Nemours & Co.	23	—	23.9	1,015,616
Conoco	24	38	23.0	795,181
American Home Products Corp.	25	13	22.1	1,034,571
Superior Oil Co.	26	—	22.1	217,550
General Motors Corp.	27	21	21.2	1,682,168
Union Oil Co. of California	28	44	21.2	979,752
Boeing Co.	29	36	21.2	826,310
Lilly (Eli) & Co.	30	—	21.2	481,521
Union Pacific Corp.	31	28	21.2	474,908
McDonald's Corp.	32	—	21.2	246,544
International Telephone & Telegraph Corp.	33	—	19.4	913,635
Bankamerica Corp.	34	—	19.4	767,043
Pfizer	35	—	19.4	444,298
Johnson & Johnson	36	31	19.4	425,068
Hughes Tool Co.	37	41	19.4	298,056
Dow Chemical Co.	38	15	18.5	1,248,438
Pepsico	39	43	18.5	607,192
Deere & Co.	40	—	17.7	585,652
Engelhard Minerals & Chemicals Corp.	41	—	17.7	473,434
Dresser Industries	42	32	17.7	469,808
Getty Oil Co.	43	45	17.7	452,308
SmithKline Corp.	44	25	17.7	446,686
Abbott Laboratories	45	—	17.7	350,496
Morgan (J. P.) & Co.	46	37	17.7	325,038
Burroughs Corp.	47	33	17.7	269,314
Standard Brands	48	—	17.7	261,266
Beatrice Foods Co.	49	29	16.8	841,753
Coca-Cola Co.	50	27	16.8	568,757

Pension World

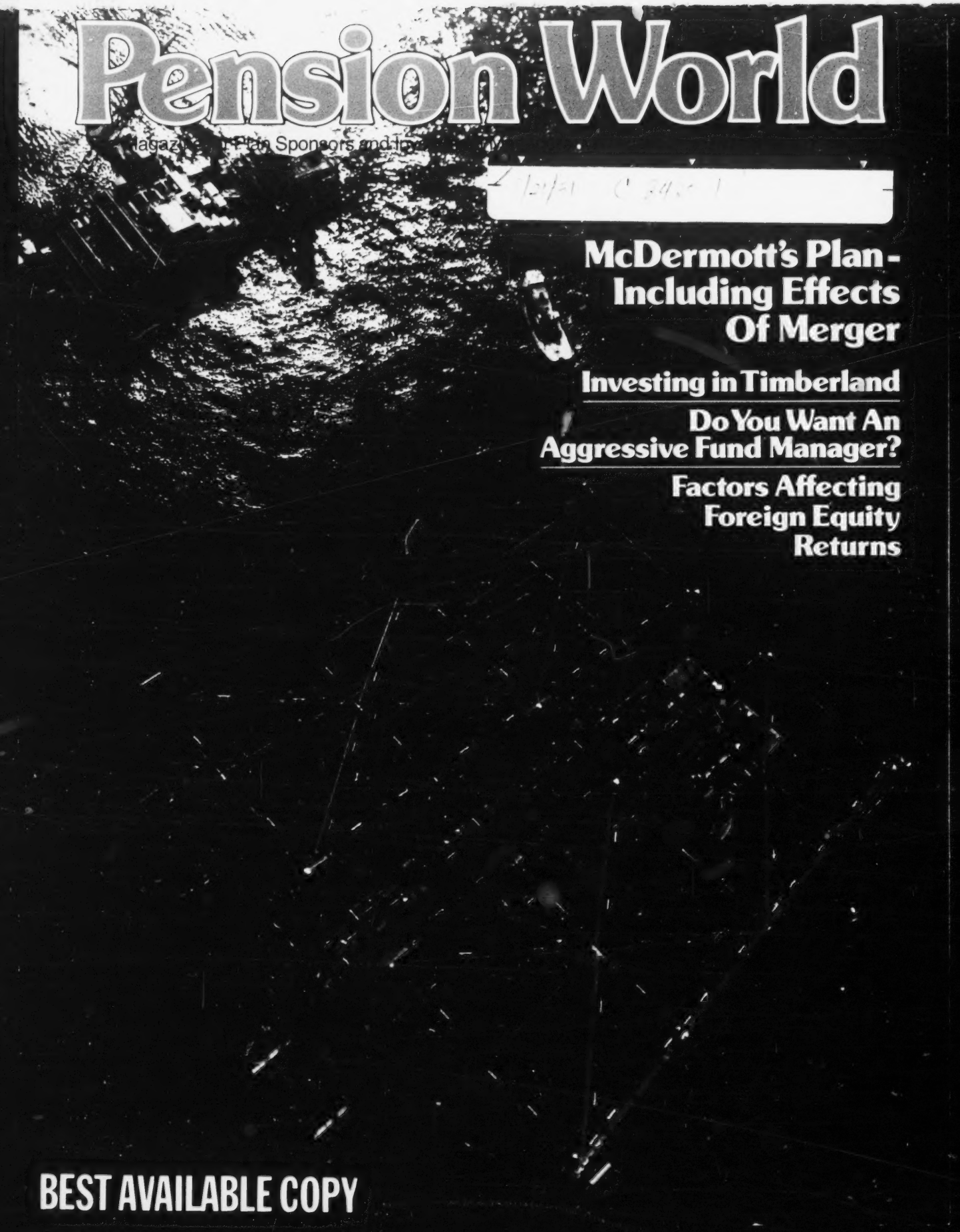
Magazine for Plan Sponsors and Ins

McDermott's Plan - Including Effects Of Merger

Investing in Timberland

Do You Want An Aggressive Fund Manager?

Factors Affecting Foreign Equity Returns



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Pension World

June 1981
Volume 17 Number 6

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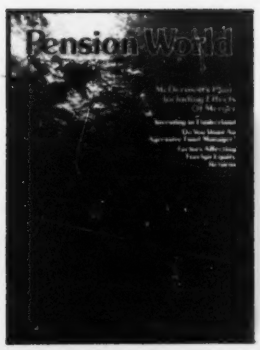

Cover: The merger of J. Ray McDermott and Babcock & Wilcox in 1978 provided the new firm with greatly expanded capabilities in the energy area. How the company's benefits plans are being combined harmoniously begins on page 14.

BPA

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Real estate's financial performance in the marketplace

Pension fund managers have shown an active interest in evaluating real estate as an alternative investment for two principal reasons: 1) the perception of real estate as an effective hedge against inflation; and 2) the investment impact of the Employee Retirement Income Security Act of 1974 (ERISA), which mandates that fund administrators/managers have a fiduciary responsibility to ensure that all investment decisions are made with the skill that a prudent man familiar with such matters would use and that investments be diversified to minimize risk.

This article addresses the financial considerations relevant to the selection of real estate as a potential investment vehicle. To determine whether real estate can be an effective inflation hedge and also a low-risk investment option, three fundamental questions relating to real property investment are addressed:

1. Is the ownership of real estate a viable investment alternative, i.e., what is the risk and what are the rewards?

2. What impact does real estate ownership have on total portfolio return, expressed in terms of impact on expected return and impact on volatility of return?

3. What are the equity investment options, i.e., should a fund invest directly or use an intermediary, such as a commingled fund?

The same process of risk/reward determination would be used in evaluating investment in raw land or in developing income-producing property. However, the most recent real estate survey by Money Market Directories, Inc., (printed in *Pension World*, Sept. 1980) pointed out that over two-thirds of the pension fund respondents favored investment in developed, income-producing properties for an equity ownership option. This being the case, equity ownership in real estate is taken here to mean equity ownership in on-stream, income-producing property.

In order to provide a rational evaluation construct, we will deal with the following areas:

- The hypothetical value of diversification into real property.
- Ex post returns on equity real estate *vis a vis* more traditional pension fund equity investments.
- Risk in real estate investment and how to deal with it.
- 1981 through 1985 ex ante returns.
- The rewards and associated risks of equity options.

The hypothetical value of diversification into property

Investment, by definition, is to subject a sum of money with a certain present value to risk in the hopes of obtaining an uncertain reward. Moreover, the higher the reward, the higher the risk. Specifically, risk is defined statistically as the probable range of deviation between actual reward (total return on investment) and expected reward. While a great deal of judgment is required, statistical techniques are available which permit the estimation and control of the sources of both risk and return. Making a rational investment decision without, at the very minimum, a conditional determination of probable return and upside/downside risk is hard to imagine.

The principal potential value to a pension fund of diversifying into equity real estate is as follows:

1. Because, with the exception of apartments, most income-producing properties have leases that may allow for pass through of expenses, be based on a percentage of sales, or have partial to full CPI kickers, real estate is perceived to be highly responsive to inflation. Since inflation will probably continue to be a major market factor, this positive response characteristic of real estate would represent a potentially positive addition to a portfolio not containing real property.

2. If markets were totally efficient and investment portfolios were industry comprehensive, total portfolio return would be perfectly consistent with its positioning on the risk/reward spectrum. However, the real property market is inefficient, and equity real estate represents an add-on to most pension fund portfolios. Therefore, two impacts may occur:

- Because equity real estate represents a "dissimilar" market, i.e., the market comprehensiveness of the portfolio is expanded, one would expect that market risk might be reduced. Thus, the deviation between expected and actual return could diminish.
- Because the real estate market is inefficient, i.e., relevant information is not fully available, it is possible to achieve a higher rate of return than if the market were ef-

by **NATHAN SCHLOSS**
Vice President-Treasurer
Real Estate Research Corporation
Chicago

Pre-Tax Total Annual Returns (1976-1980)

S&P 500	9.5%	Strip Shopping Centers	12.0%
Apartments	10.6%	Warehouses	11.0%
Hotels	17.4%	Office Buildings	14.3%
Regional Shopping Centers	17.3%	Rate of Inflation (CPI-U)	9.2%

ficient and one could only expect a "fair" rate of return relative to assumed risk.

Ex post returns on equity real estate

The most reliable series available on historical real estate portfolio performance is the American Council of Life Insurance's historical series which dates back to 1965. An evaluation of financial and appraisal data relating to mortgage commitments by the principal life insurance company lenders in the U.S. suggests that, on average, total nominal annualized average return on property held between 1970 and 1976 would have been 10.2 percent. During the same time frame, Lawrence Fisher and James Lorie's study, *A Half Century of Returns on Stocks and Bonds,*[1] showed that nominal return on common stocks was 7.1 percent. The differential between the numbers ties in with estimates of pre-tax, free and clear real property returns between 1976 and 1980 on high quality, investment grade property. These latter estimates incorporate numerous appraisals and evaluations of real property investment portfolios, in addition to the ACLI data.

The accompanying table shows total annual estimated nominal rates of return for the major income-producing property categories and the S&P 500. Also shown is the average annual rate of inflation, as measured by the all item CPI-U. The real rate of return can be obtained by subtracting the rate of inflation from the nominal rate. One additional significant factor is that the estimated volatility of high quality, investment grade real property is less than 2.5 percent, as measured by standard deviation from the average return. Thus, extremely high quality real property has shown relatively high and stable returns. It should also be noted that the writer increased the standard deviation by a full one percent to account for the judgmental element in appraisal valuations.

The annualized total return on a real estate portfolio containing two or more property categories would be the sum of the returns on all property categories in the portfolio, weighted by each property type's proportionate value to the value of the total portfolio.

Real estate investment risk

Real estate is subject to the same risk variables that all investment vehicles are, with one major difference. Real property is locationally fixed and is dependent upon regional economic factors, as well as those relating to the nation as a whole. Following is an enumeration of the principal elements which come under the rubric of investment risk and a suggested approach to dealing with each.

1. *Market Risk.* Another name is business cycle risk which, in the case of real property, must be specifically related to potential geographical areas of investment concentration. The goal here is to select only those areas that are business cycle resistant, e.g., Columbus, Ohio. This can be accomplished initially by developing a regional evaluation index which qualitatively measures both economic fundamentals and construction activity. Once a market passes this initial screening, it would have to have a high enough absolute level of nonresidential construction activity to justify spending the time and money to search for investment opportunities.

Because real estate is locationally fixed, if a decision is made to invest in a given market, it is of utmost importance to make certain that acquisitions are properly positioned within the chosen investment market and are of highest quality in-

[1] *Fisher, Lawrence and James Lorie.* A Half Century of Returns on Stocks and Bonds *(University of Chicago Press, 1977).*

level of business uncertainty that appears in the vast majority of long-range economic forecasts, market risk has to be the single most important factor to deal with and is not unrelated to the additional categories of risk.

2. *Purchasing Power Risk (Inflation).* Historically, real property has been a good hedge against inflation. However, the rates of inflation we have been experiencing have put extreme pressure on space occupants. To protect real estate investments from inflation:

- Only pick investment locations where the economic fundamentals will support the proposed investment.
- Choose protected locations where a target market exists for each structure acquired and where the target market can be definitively delineated.
- Set tight investment criteria, and do not buy properties just because there is pressure to get funds invested. Only purchase high quality investment properties. The fund will pay a premium initially, but properties are typically held for a long time.
- Obtain competent property management. This factor alone can make a 15 to 25 percent difference in net operating income.

3. *Interest Rate and Liquidity Risk.* Real property takes time to sell, and the net operating income multiple for which a property can be sold (the reciprocal of yield) is affected by the business cycle. Set a limit on real property investment levels so that the fund is never placed in a forced sale position.

1981-85 ex ante returns

Following are forecasted total annualized nominal rates of return (cash flow plus capital appreciation) on selected free and clear property categories from 1981 through 1985. Regional shopping centers and hotels are not included because, in our opinion, high quality regional shopping centers are overpriced, and hotel investment is relatively high risk for active consideration by most pension funds.

In arriving at the forecast of returns, three assumptions were made: 1) all properties were of the highest investment grade; 2) the underlying inflation rate, as measured

(Continued on page 81)

Real estate's performance in the marketplace

(Continued from page 22)

by the Gross National Product Deflator, was calculated to be in the nine to 10 percent range; and 3) a stagflation economic scenario with a major recession in 1983 or 1984 was assumed. Moreover, the magnitude of the recession was assumed to be at least equal to that which occurred between 1973 and 1975. Our forecasts of return are as follows:

Office Buildings	14.0%
Warehouses	12.5%
Strip Shopping Centers	12.5%

Rewards and associated risks of equity options

The lowest risk equity option is to purchase a share interest in one or more of the commingled funds which, historically, have been managed by life insurance companies and banks but are presently being offered by some members of the investment banking and brokerage community as well. The investor pays a fee for services but does not have to front end the cost of establishing an in-house acquisition and management capability. The investment risk is shared with others, and the fund provides the benefit of the diversification multiple of pooled funds. This is a very attractive option for smaller funds with limited investment capacity.

The equity option which will be most attractive to funds who have decided to establish an in-house real estate investment/property management activity will be the acquisition of fully-developed properties. However, the front-end costs are high, and the competition for high quality properties is intense. Before taking this option, a fund should make certain that its net return over time will exceed that attainable through investment in an intermediary and that it is willing to assume the downside risk of direct investment.

Two additional direct investment options which we do not recommend that a pension fund pursue initially are joint venturing with a developer and direct development of product for investment purposes. The rewards, depending upon the project, can be high, but so are the risks. □

Pre-retirement planning: It helps employers, too

(Continued from page 28)

fer educational assistance programs to older workers interested in exploring new careers or hobbies. In the case of IBM, employees can spend up to $2,500 of the company's funds on educational enrichment during a period extending from three years prior to retirement to two years afterward. This can include anything from tap dancing to accounting courses.

Older ex-employees are used at Bankers Life and Casualty in Chicago as "temporaries" in any number of vacant positions. Other companies bring retirees back as consultants, trainers, and part-time employees.

The recommitment of industry to the stability older workers represent will become an ongoing phenomenon in the 1980's and beyond. Midlife and pre-retirement planning is the first step in that process. □

Is George Patton going to manage your money?

(Continued from page 51)

ploy Y over either X or Z when Y's expected return is not being achieved, i.e., when the returns Y is earning do not justify the risk he is incurring.

Using this cursory analysis, the sponsor should conclude that Z is a more aggressive manager than X, and, even though X manages risk better than Z, that Z has earned the higher rewards required when participating in a more risky approach to investment. The sponsor should also probably conclude that Y is an unsatisfactory choice unless analysis reveals substantial improvements in risk management.

Of course, this analysis is not the end-all in selection of asset managers. Of much greater importance are choosing a manager in whom you have trust, one that makes decisions that make sense to you, and one who can and will provide the attention your account deserves. Nevertheless, to evaluate money managers effectively, risk and its management (as incorporated in the calculation of alpha) must be viewed together with expected and total return. Observing either total return or alpha alone can only lead to faulty conclusions. □

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"But the pension fund was just sitting there"

Gary Trudeau, cartoonist and *ex officio* philosopher, recently dealt with the diversion of the assets of a football player's pension fund to render special aid to "Lava-Lava Lenny," a 390-pounder with insatiable need for pineapples. Trudeau put forward as the defense to the assets' diversion: "But the pension fund was just sitting there." That captures perfectly the approach of many current notables who are discovering the attraction of pension assets. For example:

> Pension funds are the largest single source of capital in the United States today, representing 27 percent of gross national product. About 500,000 private pension plans, 6,600 state and local government plans, and 38 special Federal worker retirement plans collectively hold more than $550 billion in assets. The Department of Labor estimates that total assets of all plans could amount to three trillion dollars by 1995.

Thus opened a December 1980 study for the Northeast-Midwest Congressional Coalition, representing over 240 members of Congress. Senator Chafee (R-R.I.) and Congressman Edgar (D-Penn.), the Coalition officers releasing the study, announced hearings in 1981 to investigate how pension assets are invested and to get "more of the pension funds directed to local investments."

The study's approach to pension investment typifies many recent studies, articles, and speeches — including the Democratic National Convention spotlight talk on pension investing by Governor Brown of California. Typically, the first note is the sheer size of pension assets, how huge are the bucks "just sitting there." The reason for pointing to such size typically follows at once: some special objective is deemed worthy of an investment preference. Here the call is for more local investing, elsewhere it is for investing to promote reindustrialization, or unionization, or unionized building, or home-building whether or not unionized, or home financing for members of the pension plan, or exclusion of the securities of some companies, or . . .

Also typical is the exaggeration of just how vast are pension assets. "Twenty-seven percent of gross national product" is misleading. It measures a fixed asset amount accumulated over decades, against a single year's output. Would you compare your wealth to someone else's by comparing the value of your house to that person's annual income? In the less dramatic but only proper comparison, if we measure the $653 billion in private, state, and local pension assets as of year-end 1980[1] against the relevant figure, the total outstanding financial assets in the U.S. of $4,882 billion (the stock, the bonds and the mortgages, not even counting such other assets as several trillion dollars in real estate equity), we find that pension assets are not 27 percent but 13 percent.

Those typical aspects are minor, compared to the overriding aspect that typifies calls to turn pension investing toward new directions — the utterly unqualified failure to note why pension assets are there: retirement security. (For a full treatment of why pension assets should *not* be managed for goals that diverge from retirement security, see *Trusts & Estates,* Sept. 1980, Oct. 1980, and Nov. 1980.)

The advocates' unconcern for retirees and the need for retirement income is not merely callous, it also ignores the major flaw in their discovery of pension assets as a huge sum available for new uses. Even $653 billion sounds small — and unavailable — when one recalls that these assets exist to honor the pension promise, or, in less colorful terms, to meet legal obligations.

Although we cannot measure the liabilities as precisely as the assets, fair estimates are that the $653 billion, plus new contributions and investment earnings, must meet *vested* pension liabilities of $775 billion, probably more; or total accrued obligations of $995 billion, probably more.

Despite the disturbing unfirmness of so much of our data about pensions, it is worthwhile and interesting to try to work out the size of the liabilities of all non-Federal pension funds in the U.S. As far as can be determined, no such effort has been made before.

One use of these liability figures is to add an element of perspective to the controversy over whether pension beneficiaries can afford di-

[1] *The relatively small amount of Federal government pension assets so often included in pension asset figures are excluded here, because virtually no Federal pension assets are invested in private sector securities. As for Federal pension liabilities, not only does the mind boggle at their magnitudes, but how those liabilities are met differs so vastly from the funded pension systems throughout the private sector and almost all of the state and local sector, that the Federal figures must be treated separately and therefore, for present purposes, are excluded.*

by **ROY A. SCHOTLAND**
Professor of Law
Georgetown University Law Center
Washington, D.C.

version of their assets to various goals in addition to the pursuit of retirement security.

State and local pension funds, now with assets over $203 billion, have an unfunded liability so vast — and involving such uncertainties and data gaps — that in 1975, estimates ranged from 150 to 270 percent of the then assets. According to a forthcoming study, the unfunded obligations are 27 percent of current pension assets by the most sanguine measure, 79 percent of current assets by the plans' own measurements. A 1979 GAO study of representative state and local funds, including such strong ones as California state funds, found three-fourths of the funds so underfunded that they were not even up to ERISA *minima* for private plans.

As for the obligations of private pension plans, estimates of unfunded *vested* liabilities are 19 to 20 percent of current pension assets, looking only at major corporations. More realistic obligations (unfunded past service liability) are estimated to range from 42 to 82 percent of the major corporations' current pension assets.

There are important *caveats* about the use of pension liability figures. *First,* different employers are in different circumstances (and even similarly situated employers may use different actuarial methods or assumptions), so aggregate liabilities are a much more approximate figure than the far firmer asset figures.

Second caveat: Some people believe state and local funds' liabilities are less significant than private plan liabilities. Even if less significant, public plan liabilities matter enough to be taken into account for these reasons: 1) low funding now means more burden later; 2) the unbroken record of continued flow of *state* tax revenues seems likely to continue, but the *municipal* record has been different and may well become worse; and 3) even though tax revenues may continue to flow, the amount seems unlikely to enjoy continued expansion, while state and local needs remain large and pressing.

A last *caveat:* Aggregate pension asset figures lump together all kinds of employee benefit plans — defined benefit, defined contribution plans, and profit-sharing plans. Defined contribution plans and profit-sharing plans have no more liabilities than assets.

Consider the size of profit-sharing plans. Johnson & Higgins' survey of 650 major corporations showed only 102 corporations with identified profit-sharing plans, which for 1979 had received $719 million in new contributions. One hundred eighteen million dollars had been contributed to 40 firms' ESOP/TRASOP plans. Fifty-seven other firms have ESOP/TRASOP plans but no further information is reported. Although these identified amounts are under-statements, "it is presumed with a great degree of certainty, that the $26 billion in pension cost for the 650 companies . . . is largely composed of costs incurred by domestic, defined benefit plans."[2]

Different employers are in different circumstances, so aggregate liabilities are a much more approximate figure than the asset figures.

According to a survey by the Profit Sharing Council of America, 513 profit-sharing plans received over $990 million in contributions, but the total assets of all such plans may be as much as $60 billion. The survey, answered by 513 of over 1,400 member companies, reported $7.9 billion in profit-sharing and thrift assets for end-1979.[3]

Based on Treasury Department data, the Profit Sharing Research Foundation finds that as of year-end 1980, there are 286,000 profit-sharing and thrift plans, or 46 percent of the universe of plans, the other 54 percent being pension plans.

Although the PSCA and PSRF believe that the percentage of *assets* in profit-sharing and thrift plans is less than their percentage of the number of plans, they also believe their asset figure is far above the $7.9 billion shown in their survey. They estimate the profit-sharing and thrift universe to be 20 percent, more likely 25 percent, of all *non*-insured employee benefit assets. For end-September 1980, the SEC reported $248 billion (book value) in non-insured employee benefit assets, therefore PSCA and PSRF estimate $50 billion in profit-sharing and thrift plans, more likely $62 billion.

Next consider defined contribution plans. These have been rising as a proportion of all pension plans. As of 1975, they were estimated to be 31.3 percent of all ERISA-covered private *plans.*[4] As a proportion of plans, they probably are much larger today, between the growth of employer-sponsored IRA's and the growth of other IRA's, but as a proportion of all pension assets in 1975 or now they would be very much smaller.

Take the IRA's. These have soared from $4.3 billion in 1976 to over $15 billion in 1979.[5] New contributions bring IRA's to over $18 billion, and other net growth should bring the IRA figure to about $20 billion for year-end 1980.

Available data on contributions into Keoghs do not include all contributions. The reported $2.34 billion contributed in 1979 is informally estimated by the Treasury to indicate about $3.5 billion in total Keogh contributions. Total Keogh assets are informally estimated to be about $25 billion.

So adding the $20 billion in IRA's to $25 billion for Keoghs, we get to $45 billion. As for other defined contribution plans, near-darkness descends. The biggest, TIAA-CREF, was over $18 billion at year-end 1980. As for the remaining defined contribution plans, there are only tiny amounts in the state and local universe, e.g., California's over $28 billion pension assets include five million dollars in local, defined contribution plans.[6]

[2]Funding Costs and Liabilities of Large Corporate Pension Plans *(Johnson & Higgins, 1980).*

[3]*1980 Profit Sharing Survey (Profit Sharing Council of America), p. 1.*

[4]*See ICF* A Private Pension Forecasting Model *(Report for Department of Labor, Oct. 1979), Table II-1.*

[5]Costs and Consequences of Tax Incentives: The IRA (Harvard Law Review, *Vol. 94, 864, 871, 1981).*

[6]*Comptroller's Annual Report of State of California Financial Transactions — Public Retirement Systems, Fiscal 1978-9, p. 5*

Adding the $45 billion estimate for IRA's and Keoghs, the $18 billion for TIAA-CREF, plus an additional near-random guesstimate of $20 billion for all other defined contribution plans, brings the defined contribution total to a probably too high $83 billion. Combine that with the more conservative estimate of $50 billion for profit-sharing plans, for a total sum of $133 billion for non-defined-benefit assets.

Since two-thirds of the IRA assets are in depository institutions, as must be much of the Keogh assets, query whether this whole $133 billion is included in the usual aggregate pension asset figures. In the likelihood that this whole sum is not included in that aggregate, deduct only $110 billion from the aggregate $451 billion private pension assets, to get private defined benefit assets of $341 billion.

To derive the liability figures on the private funds (see Tables I and II), the *lower* figures from two leading sources were used. The 20 percent vested and 42 percent accrued unfunded liability figures are from Johnson & Higgins.[7] The 19 percent vested and 82 percent accrued figures are from Regan, *Pension Survey Shows Some Sign of Improvement.*[8]

Regan's sample covers the largest companies, all industrial and mature, almost all heavily capitalized, and strongly unionized. That sample shows *lower* unfunded vested liabilities than two larger samples, Johnson & Higgins and the *Business Week* annual survey of 100 major companies.[9]

The largest sample on which data are available, the Standard & Poor's Compustat Services' "Unfunded Pension Liabilities," which underlies the *Business Week* survey but covers 1,516 firms, has no overall figures. But there is value in comparing that huge sample's distribution of the firms' unfunded vested liabilities, with the distribution among Johnson & Higgins' *Fortune 444* industrials and others. (See Table II.) On the public funds, for unfunded vested liabilities, the 27 percent-of-current-plan-assets figure from the forthcoming study was used, and for unfunded past

(Continued on page 80)

Table I **Unfunded Liabilities (end-1979)**

	Regan's 40 Giant Industrials	J. & H.'s Fortune 500 Industrials	*Business Week's* 100 Major Companies
UVL as % of net worth	5.5%	7.3% (444 corps.)	7.1%
UVL as % of plan assets	19 %	25 % (432 corps.)	NA
UPSL as % of net worth	23.5%	11.9% (293 corps.)	NA
UPSL as % of plan assets	82 %	43 % (285 corps.)	NA

Table II **Unfunded Vested Liabilities as Percentage of Net Worth (end-1979)**

	Fortune 600	Compustat 1,516
0-9.9%	83%	90 %
10-19%	10%	5.1%
20-29.9%	3%	2.3%
30% plus	4%	2.6%

The following information appears as a matter of record only.
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[7] Supra, *pp. 42-46. Data on 432* Fortune *500 and 139 top non-industrial companies for vested liabilities, on 387 (285 such industrials and 102 other) companies for unfunded past service liabilities.*

[8] Financial Analysts Journal *(Sept.-Oct 1980), p. 16. Data on the four largest firms in each of 10 major industries.*

[9] *August 25, 1980, p. 94.*

WORLD, NATIONAL, AND INDUSTRY

Factors affecting foreign equity returns

A new study demonstrates that the identification of correct national markets in which to invest is a powerful contributor to superior performance in foreign equity markets.

As an increasing number of institutional investors are diversifying their investment portfolios internationally, the interest in factors affecting foreign equity returns has grown. The results of this study indicate that the national factor (the return of the broad capitalization weighted index of the particular national equity market) is the single most important factor for explaining an equity's return. The national factor accounts for approximately half of the return variation of individual stocks, or as much as all other factors combined. From this evidence, it is clear that risk reduction is better achieved by diversifying across countries than by diversifying across other equity characteristics and that a most powerful contribution to superior investment performance would be the identification of correct national markets in which to invest.

Previous studies by Lessard[1] and by Solnik[2] have identified the national factor as most important when examining return data from 1966 through 1973. This study identifies the proportions of individual equity returns which are explained by the national, world, industry, and size of firm factors, and what proportion is explained by all other factors combined. The returns examined are from 1978 and 1979, thus the results should have strong implications for today's investment strategy decisions.

Below the company name in Exhibit 1 is the size, or market capitalization of the firm, in millions of U.S. dollars. The monthly percentage price appreciation or depreciation of each company's stock, in U.S. dollar terms, was collected from Capital International Perspective for each of nine months, beginning with November, 1978.

Also collected from Perspective were the monthly percentage changes in each national market index, each industry index, and the world equity index, for the same nine months. The national index for a particular country is the capitalization weighted index of the prices of that country's equities. The industry index is the capitalization weighted index of the prices of all companies (from all countries) in that particular industry. The world index is the capitalization weighted price index of all firms within Capital International's national and industry indices and is a broad index of the entire world equity market. As of January, 1979, Capital International included a total of 1,110 companies in its 18 national and 33 industry indices.

The returns of the companies (all companies over each of the nine months) were regressed on the various explanatory factors (national return, world return, industry return, and size) to see how much of the return variance was explained by each factor. Exhibit 2 contains the results of each regression run. The R^2 is the proportion of total variance which is explained by the regression equation.

Run #1 shows that 48.4 percent of the company return variation (by this we mean variance) is explained by the national index return, while runs #2 and #3 show that the world and industry factors each explained 19.3 percent of the variation. Run #4 shows that the size of the firm explained only 0.6 percent, or virtually none of the company return variation. Runs #5, #6, and #7 clearly demonstrate that the factors contain mutually redundant information. Run #5 shows that the world and national factors together explain 48.6 percent of the company return variation, which is only 0.2 percent more than was explained by the national factor alone. In Run #6, we see that the national and industry factors together explained 49.7 percent of the variation, or just 1.3 percent more than the national factor alone. The national, world, and industry factors (Run #7) together explained 49.9 percent of the variation, and the addition of the size factor (Run #8) increased this to 50.4 percent. The remaining 49.6 percent was due

[1]*Donald R. Lessard. "World, Country, and Industry Relationships in Equity Returns,"* Financial Analysts Journal *(January-February, 1976), and "World, National, and Industry Factors in Equity Returns,"* Journal of Finance *(May, 1974)*

[2]*Bruno H. Solnik.* European Capital Markets *(Lexington Books, 1973).*

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to all other factors which we have omitted.

It is interesting to observe the explained return variation after subtracting one of the factors from the company returns. For Runs #9, #10, and #11, the world returns are subtracted from the company returns, and the result is regressed on other factors. Run #9 shows that even after subtracting the world return, the national factor explained 32.3 percent of the remaining variation, while Run #10 shows that the industry factor explained only 4.6 percent of the remaining variation, and Run #11 shows that virtually all of the information contained by the industry factor was also contained by the national factor. For Runs #12 and #13, the industry return is first subtracted from company returns. The world factor explained only 1.5 percent of the remaining variation (Run #12), while the national factor (Run #13) explained 29.9 percent of the remaining company return variation.

Diversification is better obtained across national equity markets.

The final two regression runs demonstrate that the national factor contains virtually all of the explanatory information of the world and industry factors. The national market returns are subtracted from the company returns, and the result is regressed on the other variables. Run #14 shows that the world factor explained almost none of the remaining variation, while Run #15 shows that the industry factor explained only 0.7 percent of the remaining company return variation.

Implications for investors

Individually, the national factor explained 48 percent of individual equity returns, the world and industry factors explained 19 percent each, and size had little apparent effect. Virtually all of the explanatory information contained by the other factors is already contained by the national factor. The following implications might assist those who are planning to invest in foreign equities, when structuring their international investment programs.

1. If diversification is a goal, it can be better obtained by diversifying across national equity mar-

EXHIBIT I **Countries, Industries, and Companies**

	Banking	Beverage and Breweries	Building Components	Chemicals	Non-Ferrous Metals	Food and Household Products	Insurance	Machinery and Engineering	Merchandising
Australia	Bank of New South Wales $659	Tooth & Company $131	Blue Metal Industries $83	ICI Australia $350	MIM Holdings $1010	Arnotts $76	MLC $31		G. J. Coles $432
Canada	Canada Permanent Mortgage $126	Seagram $1101	Genstar $535	Du Pont $158	INCO $1558	George Weston $233		Massey-Ferguson $231	Hudson's Bay Company $561
France	Credit Foncier de France $334	Perrier $389	Generale de Founderie $57	L'air Liquide $1115	Pechiney Ugine Kuhlmann $571	Beghin-Say $146	La Concorde $57	Schneider S A $129	Carrefour $713
Germany	Wurttembergische Hypothekenbank $85	Lowenbrau $110	Pegulan Werke $80	Bayer $2875	Metallgesellschaft $507	Suddeutsche Zucker $204	Allianz Versicherung $1280	Gutehoffnungshutte $1012	Horten $330
Italy	MedioBanca $294	Gio Buton $94	Italcementi $173	Rumianca $44	Smi-Metali $29	SME $251	Assicurazioni Generali $1048	Ernesto Breda $23	La Rinascente $109
Japan	Shizuoka Bank $546	Kirin Brewery $1284	Sumimotot Cement $152	Japan Catalytic Chemical $186	Nippon Mining $526	Lion Fat & Oil $155	Sumimotot Marine & Fire Ins. $463	Mitsubishi Heavy $1648	Daimaru $351
Singapore	Oversea Chinese Banking Corp. $589	Fraser & Neave $161	Tasek Cement $97	Chemical Co. of Malaysia $70	Straits Trading $184	Cold Storage $113	Great Eastern Life $51	Tractors Malaysia $168	Robinson $39
Switzerland	Banque Cantonale Vaudoise $240		Forbo $142	Ciba-Geigy (Inh) $2890	Aluminium Suisse (Nom) $845	Hero Lenzberg $93	Helvetia $126	Oerlikon Buhrle (Inh) $2112	Jelmoli $273
United Kingdom	National & Commercial Banking $414	Distillers $1677	London Brick $81	Laporte Industries $127	Rio Tinto Zinc $1497	Tate & Lyle $166	Pearl Assurance $197	Hawker Siddeley $790	Curry's $99

The number below the company name is the total market capitalization of the company's equity in millions of U.S. dollars as of June 29, 1979.

The three X-ed modules of the matrix are three cases for which a good industry fit could not be found for the particular country.

The industries and countries were first chosen randomly from the Capital International groupings. The company in each module was then selected randomly from among all those which were eligible (same country and industry). These companies' returns were then studied. The returns were monthly, over a nine-month period which began with November, 1978.

EXHIBIT 2 **Regression Results**

Run #1: COMPANY = −.31 (−1.41) + .90 * NATIONAL (25.54)		R^2 = .484
Run #2: COMPANY = −.46 (−1.62) + 1.42 * WORLD (12.91)		R^2 = .193
Run #3: COMPANY = −.11 (−.38) + 1.05 * INDUSTRY (12.89)		R^2 = .193
Run #4: COMPANY = .29 (.75) + .10 * SIZE (2.01)		R^2 = .006
Run #5: COMPANY = −.41 (−1.79) + .86 * NATIONAL (19.88) + .17 * WORLD (1.56)		R^2 = .486
Run #6: COMPANY = −.47 (−2.14) + .82 * NATIONAL (20.48) + .31 * INDUSTRY (4.19)		R^2 = .497
Run #7: COMPANY = −.37 (−1.64) + .85 * NATIONAL (19.83) − .30 * WORLD (−2.00) + .46 * INDUSTRY (4.38)		R^2 = .499
Run #8: COMPANY = −.78 (−2.77) + .85 * NATIONAL (19.83) − .28 * WORLD (−1.83) + .43 * INDUSTRY (4.14) + .09 * SIZE (2.40)		R^2 = .504
Run #9: COUNTRY — WORLD = −.90 (−3.94) + .66 * NATIONAL (18.22)		R^2 = .323
Run #10: COUNTRY — WORLD = −.49 (−1.78) + .47 * INDUSTRY (5.82)		R^2 = .046
Run #11: COUNTRY — WORLD = −.80 (−3.49) + .72 * NATIONAL (17.07) − .18 * INDUSTRY (−2.32)		R^2 = .328
Run #12: COUNTRY — INDUSTRY = −.37 (−1.32) + .36 * WORLD (3.26)		R^2 = .015
Run #13: COUNTRY — INDUSTRY = −.83 (−3.61) + .64 * NATIONAL (17.22)		R^2 = .299
Run #14: COUNTRY — NATIONAL = −.40 (−1.74) − .03 * WORLD (−.36)		R^2 = .000
Run #15: COUNTRY — NATIONAL = −.55 (−2.48) + .15 * INDUSTRY (2.23)		R^2 = .007

COMPANY = Monthly returns (in %) of the companies.
NATIONAL = Monthly returns (in %) of the national equity market indices.
WORLD = Monthly returns (in %) of the world equity market index.
SIZE = Market capitalization of the company in 100 million U.S. dollars.
INDUSTRY = Monthly returns (in %) of the industry indices.
R^2 is the proportion of the dependent variable's variance which is explained by the regression equation.
Parentheses contain t — statistics for regression coefficients.

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kets than by diversifying across industries.

2. The selection of the countries in which to invest and the allocations to the respective countries are more important for investment returns than are the selection of and allocation to industries or other sectors. The most important determinant of the portfolio's return will be the percentages invested in the respective national markets.

3. The investor may profitably invest in country indices with a relatively small ability to predict the prospects of the national markets. A much higher degree of predictive ability would be necessary to successfully invest based upon forecasts for industries or other sectors of equity markets. □

Nachman Corp. v. PBGC.[11] These limitation of liability clauses would be effective to the extent that they limit an employer's liability in excess of the 30 percent limitations of ERISA § 4062(b). The courts reasoned that because an employer can limit its liability, there must be a liability capable of being limited. That liability is an employer's direct liability to its employees for the pension benefits it has promised.

The practical effect of these decisions is potentially far-reaching. On the enactment of ERISA, many single-employer plans were amended by the deletion of the limitation of liability clauses. With the Supreme Court's decision in *Nachman,* and now the Third Circuit's decision in *Murphy v. Heppenstall,* employers which maintain single-employer plans would be well advised to reexamine their potential liabilities under their plans and to determine whether the adoption of a limitation of liability clause is permissible and proper. Moreover, it is apparent that the courts will carefully review the significance of the wording in a collective bargaining agreement which purports to limit liability or, conversely, makes an unconditional promise of a pension benefit. □

[11] *48 U.S.L.W. 4524, 100 S.Ct. 1723 (May 12, 1980).*

A pension fund alternative: Investing in timberland

(Continued from page 34)

lished and implemented. The average investor simply does not have the tools or the knowledge to purchase and sell timberland advantageously. Any number of people or institutions will offer their "help" in acquiring, managing, or purchasing timber for an investor. Most of these people have a financial interest in the timber owner's conclusion.

To insure the best interest of the investor, a registered forester is indispensable, or, for best results, the assistance of several consulting forestry firms is required. Here again, a pooled fund offers distinct advantages. The manager of the fund can utilize the strengths of various firms by identifying their specialties and areas of geographic expertise.

Acquisition and appraisal go hand in hand, and a forester is the most qualified person to make an accurate appraisal of timberland. The dirt can be appraised similarly as any real estate, but timber is another matter. An inventory must be conducted that not only identifies the number of trees, but also the diameter class and type of tree by species. Several samples must be taken for each separate stand within a tract of timberland, and an accurate assessment must be made of the number of acres and volume of wood per acre as well as the growth rate. This data must be combined with stumpage prices for various hardwood and softwood classes such as pulpwood and sawtimber.

Just as the money management industry has its own language, so does the forest industry. Only a professional forester has the knowledge to interpret these reports from which acquisition, management, and sale decisions can be made.

With the possible exception of one major timber company, virtually no forest product company is self-sufficient in timber. As a result, many of the major companies try to arrange long-term cutting contracts or "right of first refusal" arrangements with a timber owner. Because there are numerous other buyers, including foreign buyers, in the marketplace, this kind of arrangement may not be in the best interest of the timber owner.

The best way to sell timber is through the sealed bid method. Bids for the same stumpage will vary widely according to the requirements of the various bidders at the time of the bidding. As a result, an owner may get a price significantly above "current market values." Once again, the knowledge and assistance of a professional forester are indispensable.

In summary, timberland seems to be an ideal investment for retirement funds. Most sponsors can take a small portion of their fund and invest it in timberland. Although the time frame of the investment is longer than most stock and bond investments, it is similar to most real estate investments. In return for his patience, a sponsor can look forward to the probability of real rates of return, improved diversification, and an investment that increases in volume each year. □

"But the pension fund was just sitting there"

(Continued from page 56)

service liabilities, their 79 percent figure was used.

Putting these asset and liability figures together, we find there are $341 billion in private defined benefit assets, plus $203 billion in state and locals, or a total of $544 billion in defined benefit assets, facing aggregate vested liabilities of $664 billion, and aggregate accrued liabilities of $847 billion. If we use the aggregate pension asset figure of $653 billion for all private and state and local plans, we find those assets facing estimated aggregate vested liabilities of $774 billion and aggregate total obligations of $957 billion, rounded to $775 in vested liabilities and $955 in total liabilities. (Of course, to meet total accrued obligations of continuing plans, the assets will grow from both investment earnings and new contributions.)

The message for Gary Trudeau, then, is probably just what that philosopher expected. The pension fund is indeed sitting there, but it is not *just* sitting there. Lava-Lava Lenny's pineapple shortage is a real need, but the pension fund is already wholly occupied meeting other real needs. □

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